

Preservice Teachers' Attitudes toward Distance Education

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Abstract

The effective implementation of distance education (DE) depends upon users having a positive attitude toward it. Preservice teachers have been unprepared for unexpected change because of the pandemic, bringing increased involvement of various types of DE. This study examines the level and predictors of attitudes toward DE among 103 preservice teachers enrolled in various departments of a private university in Northern Cyprus. Determining the attitudes of preservice teachers toward DE is important regarding they can transfer their skills and competencies on DE to their students in the future. Using an online survey, consisting of the demography and Distance Education Attitude Scale (DEAS), as a data collection instrument, the study shows that preservice teachers possessed a low-level positive attitude toward DE. They believed that the importance of DE has been increasing day by day, but it is a luxury for their countries. Results show that preservice teachers had neutral attitudes through DE about increasing one's learning capacity and productivity and improving the quality of the education. T-test and ANOVA analyses indicated that the independent variables had no significant effect on preservice teachers' attitudes toward DE. It can be supposed that preservice teachers share a common ground in their attitudes toward DE.

Keywords: *Distance education, Attitudes, Preservice teachers, Teacher education, COVID-19*

Introduction

Northern Cyprus was one of the many countries that immediately implemented protective measures during the COVID-19 pandemic. These protective measures included the education sector, which has been impacted intensely by the pandemic. All of the educational activities were converted to online teaching and distance education (DE) after the immediate closure of schools. Even though this decision was necessary, it completely disrupted most university student's everyday lives, particularly preservice teachers. DE has become an obligation, compelling universities to use their existing online learning environments or develop new ones to make DE possible. The increasing use of communication technologies to teaching students from the campus led to a significant movement in higher education worldwide during the pandemic, including the higher education in Northern Cyprus. Therefore, the usage of DE has increased over the last two years to meet the educational needs of students during the pandemic. In other words, DE has been the most widely used essential teaching and learning tool during the pandemic.

DE is a planned learning activity done by individuals in different places who communicate and interact using technological tools (Moore & Kearsley, 2011). DE refers to any form of learning where individuals are not physically present in a classroom. DE is a process characterized by "distance in time and/or space" and remote education as a context of

'spatial distance' (Bozkurt & Sharma, 2020). Therefore, the most striking aspects of DE are that it is independent of *time* and *space*. DE provides individuals with an ability to learn at their own pace and offers alternatives to traditional face-to-face education's financial barriers (Kışla, 2015).

DE employs online and offline technologies (Bozkurt, 2019), supports synchronous and asynchronous interactions and train students (Seaman, Allen, & Seaman, 2018) even though their instructors are in different environments. Asynchronous learning environments are more flexible environments than synchronous ones. In asynchronous learning environments, course content is prepared before. Therefore, participants can connect with each other through online environments (e-boards, email or forums. Participants have access to the content as many times as they want, even if they are not in the same system simultaneously (Hrastinski, 2008). On the other hand, Patton (2008) stated that synchronous learning environments are real-time learning environments where students and teachers, even in different physical places, can communicate aurally or written.

The success of the DE might depend on some critical factors such as students' and teachers' efforts, needs, interests, motivations, and levels of interactivity with instructional materials (Kışla, 2015). *Attitude* is also one of these critical factors that affect the effectiveness of DE (Christensen, Anakwe & Kessler, 2001; Liaw, Huang, & Chen, 2007; Simsek, İskenderoglu & İskenderoglu, 2010). Further, the effective implementation of DE mainly depend upon users having a positive attitude toward it no matter how advanced or capable the technology is (Liaw et al., 2007). As Kışla (2015) mentioned, the development of DE depends on the stakeholders' attitudes and willingness to adopt it.

In literature, many studies are conducted to investigate the attitudes of university students, preservice or in-service teachers toward DE. The previous studies conducted before the pandemic showed that the participants had positive (i.e. Cavas & Kesercioglu, 2003; Liaw et al., 2007; Cavas et al., 2009; Chen & Tseng 2012; Karaca et al., 2013; Kışla, 2015) or neutral attitudes (i.e., Ates & Altun, 2008; Kışla, 2005) toward DE. When the studies conducted during the pandemic were examined, the studies were not consistent with each other on the level of participants' attitudes and predictors.

One of the studies conducted by Karakus et al. (2020) was to determine preservice Turkish Language Education teachers' views and attitudes toward DE. The findings of this study revealed that preservice teachers commonly complained about technical problems and

the effectiveness of DE practices. The majority of preservice teachers who participated in the study had low positive attitudes toward the DE. Another significant finding of the study was that preservice teachers had low motivation and interest in DE courses. Karatepe et al. (2020) and Balci, Temzi and Sivrikaya (2020) also found that preservice teachers had low positive attitudes toward DE. Preservice teachers were doubtful that online courses would be the future of education. Furthermore, the findings revealed that preservice teachers were unwilling and did not believe they were qualified to teach on DE. Yenerer (2021) conducted a study with classroom teachers to determine their views and attitudes toward DE. According to the research results, classroom teachers considered themselves competent in DE and mentioned that they did not struggle to find the materials and content for DE. On the other hand, results showed that classroom teachers had negative opinions about communication, classroom management, and individualization of DE courses according to students' needs and interests. One of the purposes of this research was to compare traditional face-to-face education and DE. Results showed that classroom teachers were generally in favour of traditional face-to-face education. Further, some research findings indicate that most university students do not want to attend DE activities after the pandemic is over (Unger & Meiran, 2020; Rizun & Strzelecki 2020).

There are some research studies in literature [i.e Egbo et al. (2011) and Kurnaz et al. (2020)] considered the influence of some demographical factors on attitudes toward DE, one of which was gender. These studies revealed that gender had a significant effect on teachers' attitudes toward DE, favouring female teachers. In his study, Yazgan (2021) also found that female students had more positive attitudes toward DE than male students. Uysal and Karagoz (2021) found the effect of gender variables on preservice teachers' attitudes toward DE. On the other hand, there are some research studies [i.e. Yahsi & Kırkac (2021) and Halitoglu (2021)] that found that gender variable has no significant effect on preservice or in-service teachers' attitude toward DE. Results of Uysal and Karagoz's (2021) study showed the neutral attitudes of preservice teachers toward DE. Further, the researchers found the significant effects of the gender variable together with the variables having internet access and class attendance on preservice teachers' attitudes toward DE. They also found the effect of the educational level variable in favour of having a master's degree. In his study, Halitoglu (2021) found the effect of the major variable on attitude toward DE in favour of the majors' Turkish Language Teaching and Psychological Counselling and Guidance. On the other hand, Balci et al. (2020) did not find the major variable's effect on preservice teachers' attitudes toward DE.

Problem Statement

In literature, some studies were investigating preservice or in-service teachers' attitudes toward DE, online learning, or e-learning (Liaw et al., 2007; Chen & Tseng, 2012; Karaca et al., 2013, Kışla, 2015; Rameli et al., 2020) before and during the pandemic. Previous research reported that there were some demographical factors such as gender, level of education, or major to influence attitudes toward DE, online learning, or e-learning in the educational settings (Cavas & Kesercioglu, 2003; Cavas et al., 2009; Karaca et al., 2013; Kışla, 2015). The number of studies to determine preservice or in-service teachers' attitudes toward DE has increased day by day during the pandemic. This study looked into preservice teachers' attitudes toward DE during the pandemic. This study differs from previous research conducted before the pandemic since it was carried out when DE is an obligation, not an option. Available literature tells us there are no consistent results on the attitudes and effects of some variables such as gender, age, education level, or major on attitudes toward DE. Therefore, this study might contribute to the previous research.

Preservice teachers have been unprepared for unexpected change because of the pandemic, bringing increased involvement of various types of DE. As mentioned before, the effective implementation of DE depends upon users having a positive attitude toward it. Therefore, as preservice teachers' attitudes on DE become favourable, they gain more behavioural intention to use it effectively. This study is essential in this respect to determine the attitudes of preservice teachers, as their attitudes is a factor that influences how effectively they can learn in DE. Determining the attitudes of preservice teachers toward DE is important regarding they can transfer their skills and competencies on DE to their students in the future. In other words, they will shape the future of DE through design and implementation courses (Kışla, 2015).

The study aims to investigate preservice teachers' attitudes toward DE and identify the predictors of attitudes toward DE. The study focuses on how preservice teachers' gender, major, and education level predict their attitudes toward DE.

Method

This study employed a quantitative research methodology using a survey method. An online survey was used to investigate preservice teachers' attitudes toward DE. The study was conducted in the 2020-2021 fall term in five different departments of the Faculty of Education

at both Turkish- and English-medium private universities in Northern Cyprus. All educational activities were suspended on March 2020. As soon as government authorities announced the shutdown, the university administration arranged all facilities for DE. The courses were planned as synchronous and asynchronous courses and included both methods. Synchronous activities of the courses were conducted as live classes/meetings with preservice teachers through MS Teams. Asynchronous activities were in videos of the synchronously taught courses, and the instructors prepared materials. All the content of the courses and the assessment-evaluation processes were shared through Moodle platform.

Sample

All preservice teachers at Turkish medium departments in the faculty constituted the study's target population. Preservice teachers were invited to complete the anonymous online survey through their WhatsApp groups and emails. Preservice teachers who volunteered completed an anonymous online survey via Microsoft forms. Out of 800 preservice teachers, 103 responded to the survey. The overall response rate was 12.87%. The sampling error for the 95% confidence interval was 9%. The data of this study was posted for two months, from October to December 2020.

The online survey was responded to by 103 preservice teachers, of whom 75.7% were female, and 24.3% were male. Of the preservice teachers who attended the study, 38.8% (n=40) were between the ages of 17-21, 45.6% (n=47) were between the ages of 22-26, and 15.5% (n=16) were 26+. The largest group of preservice teachers studied Early Childhood Education (43.7%, n=45), followed by Special Education (28.2%, n=29), Classroom Teacher Education (13.6%, n=14), Physiological Counselling (11.7%, n=12) and Mathematics Education (2.9%, n=3). Specifically, 25.2% (n=26) were enrolled in 1st year, 19.4% (n=20) were enrolled in 2nd year, 25.2% (n=26) were enrolled in the 3rd year, and 30.1% (n=31) were enrolled in the 4th year.

The Online Survey

The online survey included 40 items and consisted of two sections: 1) demography section, asking the preservice' teachers' gender, age, country of origin, major, and grade level; 2) a section asking about preservice teachers' attitudes toward DE through a five-point Likert-type scale (1=strongly disagree, 2=disagree, 3= neither agree nor disagree, 4=agree, 5=strongly

agree) named Distance Education Attitude Scale (DEAS). The DEAS was a reliable and valid, one factored scale (n=35) developed by Kışla (2016). The items 1, 2, 4, 5, 9, 11, 14, 15, 16, 18, 19, 22, 23, 25, 26, 28, 29, 33, and 34 were scored “Strongly Agree” (5 points) to “Strongly Disagree” (1 point), the remaining items were scored reverse (3, 6, 7, 8, 10, 12, 13, 17, 20, 21, 24, 27, 30, 31, 32, 35). While evaluating the score intervals, the order can be evaluated according to the distribution of the points given in Table 1. The average duration of time needed to complete the survey was estimated at 15-20 minutes.

Table 1

Score Ranges for Attitudes toward DE

Level	Minimum	Maximum
Too high	4.20	5.00
High	3.40	4.19
Moderate	2.60	3.39
Low	1.80	2.59
Too low	1.0	1.79

The reliability analysis results for DEAS is captured by Cronbach’s Alpha reliability coefficient, which is 0.96.

Data Analysis

Descriptive statistics (frequency, percentages, means and standard deviations) were used to examine preservice teachers' attitudes toward the DE. ANOVA and t-test analyses were conducted to determine the effects of variables, namely, gender, major and education level, on attitudes of preservice teachers' toward DE. Before conducting ANOVA and t-test analyses, all assumptions of these tests were checked and validated. All statistical analyses were conducted using a statistical package for the social sciences. The level of significance was set as $\alpha = 0.05$.

Results

Preservice Teachers' Attitudes toward the DE

The first goal of this research is to determine the level of the preservice teachers' attitude toward DE. The mean of the DEAS was calculated as 2.51. By the score intervals given in Table 1, it can be concluded that the attitude toward DE score (2.51) was in the low interval of scores.

The findings of the study revealed that the item “The importance of DE is increasing day by day.” had the highest mean ($M=3.50, SD=1.13$) followed by the items “I find it appropriate that some courses at universities have given by DE.” ($M=3.40, SD=1.12$) and “I think DE is a luxury for our country.” ($M=3.24, SD=1.30$). It can be said that preservice teachers believed that the importance of DE has been increasing every day, although it was a luxury for their own countries. The item “I think DE is the future form of education.” ($M=3.11, SD=1.23$) had a moderate mean which supports that the preservice teachers had neutral attitudes about the future of DE.

Results show that preservice teachers had neutral attitudes through DE about increasing one's learning capacity ($M=2.09, SD=1.81$) and productivity ($M=2.12, SD=1.11$) and improving the quality of the education ($M=2.03, SD=1.14$). The item “The lessons I take through DE motivate me more.” showed a low mean ($M=2.09, SD=1.19$), implying that preservice teachers had negative attitudes in motivating themselves to succeed in the learning activities organized by DE.

Results showed that preservice teachers have neither positive nor negative attitudes toward the idea of “I believe that DE instructors are unqualified in terms of knowledge and teaching skills.” ($M=2.92, SD=1.21$), “DE is at least as reputable as traditional face-to-face education.” ($M=2.75, SD=1.20$) and “I think that the materials used in distance education are sufficient.” ($M=2.51, SD=1.28$).

Preservice teachers disagree with the statements in the remaining scale items. For example, the items “I think that those who work in DE are insufficient in terms of knowledge and skills.” ($M=2.99, SD=1.33$) and “I think the materials used in DE are sufficient.” ($M=2.51, SD=1.12$) can be considered as the preservice teachers' negative attitudes toward the DE.

The Effects of Variables on Attitudes of Preservice Teachers toward DE

The researcher attempted to determine whether there was a significant mean difference between female and male preservice teachers regarding their attitude toward the DE. An independent-samples t-test was conducted to evaluate the preservice teachers' attitude toward DE in terms of their gender. The results revealed that the average scores of female preservice teachers ($M=2.45, SD=0.08$) were not so far from the average scores of male preservice teachers ($M=2.70, SD=0.21$). There is no significant mean difference between the female and male

preservice teachers attitude scores toward DE, $t(103)=1.36$, $p=1.18$, which reflects no difference in the mean scores.

This study also aimed to identify whether there was an effect of major preservice teachers on their attitude scores toward DE. The independent variable (major) included five levels: Special Education, Preschool Teacher Education, Math Teaching, Classroom Teacher and Psychological Counselling and Guidance. The average scores of the preservice teachers who were in the Special Education department were $M=2.50$ with $SD=0.93$, who was in the Preschool Teacher Education department were $M=2.53$ with $SD=0.75$, who was in Mathematics Education Department was $M=2$ with $SD=0.44$, who were in Classroom Teacher Education Department was $M=2.53$ with $SD=0.97$, and who was in Psychological Counselling Department was $M=2.5$ with $SD=0.80$. The ANOVA was not significant, $F(4,98)=0.29$, $p=0.88$. There was no significant effect of the major variable on preservice teachers' attitudes toward DE.

ANOVA test was also conducted to evaluate preservice teachers' attitudes toward DE differ significantly in their education level. The independent variable, education level, included four levels (1st, 2nd, 3rd, and fourth). The average scores of the preservice teachers who were in the first education level were $M=2.44$ with $SD=0.92$, who was in the second education level was $M=2.65$ with $SD=0.83$, who were in the third education level was $M=2.63$ with $SD=0.62$, and who were in the fourth education level was $M=2.37$ with $SD=0.89$. The ANOVA was not significant, $F(3, 99)=0.52$, $p=0.76$. There is no significant effect of the education level variable on preservice teachers' attitudes toward DE.

Discussions and Conclusions

This study aimed to examine preservice teachers' attitudes toward DE and predictors of attitudes toward DE among preservice teachers. The researcher specifically examined the preservice teacher's attitudes toward DE and how their gender, major, and education level predict their attitudes toward DE.

There have been changes to educational settings due to COVID-19. Preservice teachers have not experienced such settings before. Therefore, they do not know how to deal with such circumstances. The study results showed that preservice teachers had a low positive attitude toward DE. The reason might be that preservice teachers unexpectedly found themselves in a situation where traditional face-to-face education was terminated and replaced by DE. Some of the findings of studies conducted by Egbo et al. (2011), Kışla (2015), Balci et al. (2020),

Karakus et al. (2020), Kaban (2021) and Karatepe et al. (2020) were consistent with this research showing that preservice teachers had low-positive attitudes toward DE. The findings of this study contradict Halitoglu (2020) result, which was that preservice teachers have high attitudes scores and are generally satisfied with the DE practices.

As discussed in the above sections, previous studies conducted before the COVID-19 pandemic with preservice and in-service teachers showed that positive attitudes toward DE (Liaw et al., 2007; Chen and Tseng 2012; Karaca et al., 2013, Kışla, 2015; Cavas & Kesercioglu, 2003; Cavas et al., 2009; Karaca et al., 2013; Brinkerhoff & Koroghlanian, 2005). On the other hand, the studies were conducted during the COVID-19 pandemic; it was revealed that the studies were not consistent with each other on the level of preservice' or in-service teachers' attitudes toward DE. It might be stated that preservice or in-service teachers' attitudes might be caused by a lack of knowledge and experience in DE.

As suggested by previous literature, high positive attitudes toward DE are of great importance for individual usage, and its practical implementation of DE depends upon users having a positive attitude toward it. These findings are promising and suggest that preservice teachers feel comfortable with their future profession as teachers using and transferring their skills and competencies on DE to their students. However, the preservice teachers' attitudes toward DE are not desired level. The education faculties play a vital role in this since they can provide training for the preservice teachers to be equipped with the skills and knowledge about DE to ensure its success in future. Hence, a better understanding of preservice teachers' attitudes toward DE may be a crucial first step toward enhancing teacher education programs for adequate teacher preparation. As teachers are critical stakeholders of the education sector, their attitudes on DE may also impact students' attitudes toward DE. DE should not be seen as an alternative to traditional face-to-face education. The effectiveness of DE is related to the preparation for the lesson and the instructor's being aware of the needs of the target group.

Preservice teachers expressed a positive attitude that the importance of DE has been increasing day by day. On the other hand, preservice teachers had a neutral attitude toward DE being the future form of education. The reason why preservice teachers have not yet been used to DE and are still comparing it with traditional face-to-face education is that. This result validates Karatepe's et al. (2020) studies which mentioned that preservice teachers were unwilling and regarded themselves as lacking the competence to offer DE in the future and believed that teaching courses online was not the future form of education.

Results showed the low positive attitude of the preservice teachers according to the motivation on learning activities on DE. This result implied that preservice teachers were not motivating themselves to succeed in the learning activities organized on DE. According to Liao (2006), motivating learners to continue to study and enjoy learning is one of the critical factors in DE. In this respect, this finding of the study should be carefully considered by instructors/educators.

Preservice teachers had neutral attitudes toward DE, considering it as reputable as traditional face-to-face education. This finding could be related to the fact that they do not believe that DE was as effective as traditional face-to-face education. This result validates Yenerer's (2021) results.

Results showed that preservice teachers have neither positive nor negative attitudes toward the instructors who teach courses in DE and their qualifications. In his study, Dougiamas (2000) exposed that instructors who teach courses in DE affect students' views and attitudes. This result of the study highlighted the responsibility of the instructors who teach courses in DE.

Results of the study showed that preservice teachers had a neutral attitude toward the materials used in DE. According to Lloyd, Byrne and McCoy (2012), the effectiveness of DE is closely related to the materials. Low-quality materials can be a reason for negative views or attitudes on DE. Therefore, universities, specific instructors, are responsible for providing appropriate DE materials.

This study also aimed to identify the predictors of preservice teachers' attitudes toward DE. The predictors are gender, major, and education level. T-test results indicated no significant relationship between preservice teachers' gender and their attitudes toward DE. These results might be interpreted as DE is not providing a gender-based advantage or disadvantage. This result of the study validates some research studies [i.e. Ates & Altun, (2008); Kışla (2015), Cavas & Kesercioglu (2003), Rhema & Miliszewska (2014), Yahsi & Kırkac (2021) and Halitoglu (2021)]. On the other hand, it differs from the other studies, Yazgan (2022), Uysal and Karagoz (2021) and Kurnaz et al. (2020), which found a gender difference in attitudes toward DE. Results of the ANOVA analysis showed that preservice teachers' attitudes do not vary according to their majors, which validates Balci's et al. (2020) and Kışla's (2015) study. Education level did not affect attitudes of preservice teachers toward DE. This result validates Ates and Altun's (2008) and Sezer's (2016) studies. To conclude, none of the independent

variables was a significant predictor of preservice teachers' attitudes toward DE. These findings were, in fact, not surprising; since COVID-19 disease is a severe threat worldwide, the preservice teachers might have considered DE as their only choice to sustain their education.

Several suggestions are made for future research regarding the findings and limitations of this research. The research is context-specific. One of the limitations of the research is its sample. To further examine and deepen the results of this research, it is recommended that future studies be conducted with different preservice teacher populations to comprehend their attitudes toward DE, including those who study in other universities in Northern Cyprus and Turkey.

This research mainly employed a quantitative approach; a qualitative version of the study might be helpful to investigate the topic more intensely and provide better insight into preservice teachers' attitudes.

An alternative research design can examine the effects of experience in using computers (or smartphones and tablets) and perceived computer competency variables in various degrees on preservice teachers' attitudes toward DE.

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