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Analysis of Prospective Primary School Teachers' Attitudes towards Mobile Learning Tools and Acceptance of Mobile Learning

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Abstract

Although the use of mobile technologies in education is rapidly becoming widespread, there are limited findings about the attitudes, competencies and acceptance behaviors of prospective teachers who use and will use these technologies. However, prospective teachers will be the implementers of new technologies such as mobile learning in education when they start their teaching profession in the future. In this study, it was aimed to examine prospective teachers' attitudes towards mobile learning and their mobile learning acceptance behaviors in terms of some variables. The study was conducted by cross-sectional survey method with the participation of prospective teachers studying at two universities in Kazakhstan. The study was composed of 260 prospective teachers at different grade levels. According to the findings of the study, the acceptance behaviors of prospective teachers towards mobile technologies were found to be moderate, while their attitudes towards these technologies were found to be positive and high. In the study, it was found that prospective teachers' attitudes towards mobile learning and mobile learning acceptance behaviors showed significant differences according to gender and grade level. Finally, it was found that attitudes towards mobile learning predicted mobile learning acceptance behaviors significantly and positively in Kazakhstani prospective teachers.

Introduction

Teachers' attitudes towards information and communication technologies are crucial for the spread of these technologies in education. Access to information has gained a new dimension with the widespread use of the internet. E-learning gained immense popularity in the early 2000s, and the place of this technology in education and training became popular in determining the attitudes of teachers and prospective teachers towards it. Mobile learning can be defined as e-learning that can be accessed through portable computing devices (Quin, 2000). In other words, mobile learning is the ease of access to educational materials and learning for students with mobile devices over wireless environments (Litchfield et al., 2007). Mobile learning can be used to support traditional education or to provide distance education. Mobile learning applications vary according to user needs.

The emergence of new generation mobile devices, particularly Android and IOS-based smartphones and tablet computers, has led to the emergence and widespread use of mobile learning. The portability of mobile tools creates many educational opportunities in terms of enabling social interaction, providing the opportunity to collect real-time data based on location, time and environment, connecting with other mobile tools or networks, and enabling individualization (Klopfer, Squire, & Jenkins, 2002). When it comes to mobile devices in mobile learning, we think of reasonably sized devices that are not connected to any location and are not dependent on a power source. The reason for this is the space and time independence of mobile devices (Jason, 2007).

There are two key components in mobile learning. One of them is mobile devices and the other is computer networks (Jason, 2007). The most widely used mobile devices today are cell phones, pocket computers, portable gaming devices, tablet computers, digital voice recorders. In platform options, Blackberry, Palm, Windows Mobile, Android, i-Phone, Symbian, J2ME, Tablets can be examples. The development of technology day by day has enabled mobile learning tools to gain diversity. Today there are many application software developed for mobile devices for every discipline and used in education and training processes. These applications can usually be downloaded from platform-specific application stores. Such application software are primarily divided into three groups as native, web-based and hybrid applications. These include educational social networking platforms (Adobe Connect, Dimdim, WizIQ, Moodle, Zoom, Skype, Google Classroom, Edmodo), social media applications (WhatsApp, telegram, youtube) and applications developed for each discipline (Bawanti & Arifani, 2021; Budiman, 2020; Samala, Fajri & Ranuharja, 2019; Schwab et al., 2019).

E-learning has brought mobile learning to the forefront of education and training. Increased communication with technological tools and mobile learning has developed efficiently and effectively. New learning programs have been implemented with concrete strategies in mobile learning and mobile devices have influenced the future in an ever-changing environment (Woodill, 2011). Mobile learning is a current model of out-of-class learning that has evolved with technology. Mobile learning, which is a new learning and teaching application in the digitalizing world, is a privileged application with usability and flexibility. It has manifested itself in every field and has started to take its place rapidly in educational services with modern technology tools (Sattarov & Khaitova, 2020; Sarker et al., 2019).

Changes and developments in technology have necessitated changes in education and learning methods. The learning, behavior and perspectives of the new generation have been shaped by technology (Sünbül, Gündüz & Yılmaz, 2002). Mobile learning meets the needs of the new society that assimilates technology such as being able to do, learn, search for information, and obtain it anytime and anywhere. In this context, it is also of great importance in terms of portability, applicability, independence from time and space, learning in different ways, learning anywhere, lifelong learning, providing access to data, creating multiple learning spaces, providing communication opportunities and following the lessons (Chavoshi & Hamidi, 2019; Fagan, 2019). Thus, the new generation lives a life without using learning materials such as blackboards, chalks, pencils, textbooks, etc. as in the old system, and thus the above-mentioned learning materials tend to be forgotten. As a result, mobile devices, which are more economical in terms of portability, are preferred for accessing information in schools, universities, classrooms, workplaces, and trips (Crompton, Bernacki & Greene, 2020; Moorthy et al., 2019).

Several studies have been carried out in the process of using mobile devices, which are one of the technologies widely used by every individual today, for educational purposes. In these studies, students' and instructors' attitudes towards mobile learning were compared in terms of different factors. The results of the studies generally revealed that the attitudes of students who have mobile devices towards mobile learning are more positive than those who do not have these devices. In many universities around the world, mobile learning applications have been implemented in addition to e-learning method in universities (Criollo et al., 2021; Lall et al., 2019; Sattarov, A., & Khaitova, 2020). In addition, a great variety of studies (Evans, 2008; Hwang & Chang, 2011; Helen & Diane, 2018; Martin & Ertzberger, 2013; Philip & Garcia, 2015; Swan et al, 2005) examined the effect of mobile learning on learning and achievement; (Al-Emran, Elsherif & Shaalan, 2016; Hsieh & Tsai, 2017; Jaradat, 2004; Kim et al, 2006; Çelik & Karayaman, 2018; Gezgin, 2018; Pruet, Ang & Farzin, 2014); (Corlett et al. , 2005; Park, 2009; Park, Nam, & Cha, 2012; Teo, 2009; Tsai, Wang, & Lu, 2009; Wang, Wu, & Wang, 2009) aimed to examine mobile learning acceptance behaviors.

Much can be said about the benefits of mobile learning, in which learning continues throughout life. (Fagerberg et al., 2002; Wagner & Holmberg, 2001). In continuous learning, m-learning provides faster, practicality and convenience. It brings a whole new dimension and potential to education and increases flexibility in online distance education (Quinn, 2000). Unwitting learning is provided as if it is a part of life. Learning is provided anywhere at the time of need. It is easy to learn on the move and independent of time and space. Learning is provided with a flexible approach according to the place and conditions. Innovation and richness are added to education and training programs (O'Malley et al., 2003). Cell phones and wap technologies are used successfully. The technology used provides better learning of the course. The participant can progress according to his/her own learning speed through mobile learning. He/she accesses information according to his/her perception and learning speed. Control is in the hands of learners in all aspects (Geddes 2004). On the other hand, m-learning also provides important advantages such as increasing equality of opportunity in education, creating new learning communities, bridging formal and informal learning, helping individuals who need special education to learn and reducing the cost of learning (Lai & Hwang, 2015; Ledbetter & Finn, 2016; Mac Callum, 2011; Meng & Wang, 2012; Sung, Chang, & Liu, 2016).

Mobile devices are developing faster than other devices because they are small in size, provide communication without waiting, provide great flexibility in learning, and are an increasingly inexpensive technology (Suki & Suki 2007). Among mobile devices, cell phones are seen as the most suitable tool for m-learning because they are both widespread and easy to use (Shen, Wang, & Pan, 2008). Mobile games combined with computer games can be used to provide engaging educational environments for students. In short, learning with mobile devices distinguishes itself from other educational media by offering distinct benefits such as personal responsibility, satisfaction, and a highly motivated learning process (Ryu & Parsons 2009).

In today's world where the number of mobile device ownership and broadband internet users has increased so much, mobile learning has emerged as an opportunity in the use of technology in education. However, the increase in the place of mobile technologies in our lives has brought along research problems regarding the relationship

between mobile technologies and education (Nagima et al., 2022; Zhumash et al., 2021; Ospankulov et al., 2023; Zhussupbayev et al., 2023). The use of mobile devices for educational purposes and the preference of mobile learning environments depend on the adoption and acceptance of these technologies by individuals at the relevant educational level. When the studies on this subject are examined, it is seen that the technology acceptance model explains the use and adoption of mobile learning and mobile technologies for educational purposes at the university level (Park, 2009; Park, Nam, & Cha, 2012). In the light of this information, it is thought that the attitudes of prospective teachers, who will be the teachers of the future, towards mobile education applications and their acceptance of these technologies are very important (Kibici, 2022). In the study conducted by Jaradat (2014), the attitudes and perceptions of undergraduate students towards mobile learning were investigated. It was concluded that students preferred mobile learning to traditional learning and had positive attitudes towards mobile learning. Al-Fahad (2009) aimed to measure the attitudes and perceptions of undergraduate students towards mobile learning and concluded that students had a significantly positive attitude towards mobile learning. Sung and Mayer (2013) concluded that there is no difference between mobile learning and traditional learning, however, mobile learning increases student motivation.

Individuals' adoption and use of new technologies is influenced by many factors, and therefore these factors need to explain the adoption process. For individuals, the process of acceptance and use of mobile technologies remains uncertain (Gao, Krogstie, & Siau, 2011). At the same time, the acceptance and adoption of mobile technologies is important for ensuring their sustainability. In addition, it is thought that it is important to examine mobile technologies with the views of prospective teachers who will provide education in the future. The results revealed by the impressions of mobile learning on prospective teachers are important in terms of seeing the benefits and usage status of mobile learning in educational environments. The adoption of mobile learning by the prospective teachers participating in the research and the determination of their ideas about mobile learning application environments affect the prevalence of mobile learning. Although the use of mobile technologies in education is rapidly becoming widespread, there are limited findings about the attitudes of prospective teachers who use and will use these technologies towards mobile learning and their acceptance behaviors. However, prospective teachers will be the implementers of new technologies such as mobile learning in education when they start their teaching profession in the future. In order to ensure the adaptation of mobile technologies to learning environments and to make the mobile learning tools to be produced effective, the attitudes and acceptance behaviors of prospective teachers selected as the sample towards mobile learning become an important issue. This study aims to examine prospective teachers' attitudes towards mobile learning and their acceptance behaviors towards mobile learning in terms of some variables.

In the study, the question "At what level are prospective teachers' mobile learning acceptance behaviors and attitudes towards mobile learning?" was sought to be answered and compared according to different variables. The following research questions were developed to achieve the research aim:

1. What is the level of prospective teachers' mobile learning acceptance behaviors and attitudes towards mobile learning?
2. Do prospective teachers' mobile learning acceptance behaviors and attitudes towards mobile learning vary according to gender?

3. Do prospective teachers' mobile learning acceptance behaviors and attitudes towards mobile learning vary according to their grade level?
4. Is there a relationship between prospective teachers' mobile learning acceptance behaviors and their attitudes towards mobile learning?

Method

In this study, a cross-sectional survey research design in which single-time data were collected was used to determine prospective teachers' attitudes towards mobile learning (Creswell, 2002). Cross-sectional studies are generally preferred in large samples that include more than one feature. The mobile learning acceptance behaviors scale developed by the researcher and the mobile learning attitude scale developed by Khaddage & Knezek (2013) were prepared as optical forms to eliminate data entry errors. The mobile learning attitude scale prepared as an optical form was filled in by the prospective teachers and the data were transferred to the computer by an optical reader.

In order to determine the attitudes and acceptance behaviors of prospective teachers towards mobile learning, it was adopted that the appropriate method for the study to be conducted would be a cross-sectional survey research design in which single-time data were collected and this method was used. When determining the participants participating in the research from the appropriate sampling method, it is determined by considering the suitability and voluntariness of the participants for the research (Creswell, 2014). A total of 260 prospective teachers studying at two different universities in Kazakhstan in the academic year 2022 participated in the study. Of the participating prospective teachers, 146 were female and 114 were male. Prospective teachers from all grade levels were included in the research sample. The measurement and evaluation tools used in the study were valid and reliable. It is assumed that the sample represents the universe. In the survey studies conducted within the scope of the study, it is assumed that the prospective teachers participating in the survey understand and adopt the main purpose of the study and take care to give objective answers by finding the survey useful.

Data Collection Tools

Mobile Learning Tools Acceptance Scale

In order to measure prospective teachers' mobile learning acceptance behaviors, a 5-point scale in Likert form was developed by the researchers. In order to develop the scale aiming to measure prospective teachers' acceptance of mobile learning, firstly, a literature review was conducted. Studies on mobile learning in education were examined. During the literature review, scale development studies based on the unified theory of technology acceptance and use were focused on. For the draft scale, an item pool was first created based on expert opinions and the literature. During the item writing process, attention should be paid to ensure that the items contain factual statements and negative judgments, are grammatically appropriate and easy to understand, and do not contain more than one judgment. Taking these factors into consideration, 20 items were created for the draft scale form.

In order to evaluate the draft scale form in terms of content validity and face validity, the opinions of three experts

in the field of educational sciences, one expert in the field of measurement and evaluation, and one expert in the field of computer and instructional technologies were consulted. The draft scale form was sent to the experts electronically. The experts were asked to write their opinions about the items in the draft scale form and to edit the items. Each item in the draft scale form was graded as 1- *Strongly disagree*, 2- *Disagree*, 3- *Neutra*l, 4- *Agre*e and 5- *Strongly agree*. The 25-item form was finalized in line with expert opinions. The developed scale form was applied to a sample of 210 prospective teachers and the construct validity and reliability of the measurement tool were tested.

In the Kaiser-Meyer-Olkin (KMO) test conducted to determine whether the sample size was sufficient for exploratory factor analysis, the KMO value was found to be 0.908. This value shows that the sample size is sufficient for factor analysis. In the Barlett test conducted to evaluate whether the items in the draft scale form were related to each other, the chi-square value was found to be 5286.01 ($p < 0.05$). The results of KMO and Barlett test show that the data are suitable for exploratory factor analysis. After the necessary tests were performed to evaluate the suitability of the data for exploratory factor analysis, exploratory factor analysis was started. The items in the draft scale form were prepared to have the same structure as the original scale form. To determine the number of factors in the exploratory factor analysis, the eigenvalue and the scree accumulation graph were examined. Firstly, it was examined how many factors with an eigenvalue greater than 1 emerged. Then, the number of factors of the scale was decided by examining the scree accumulation graph. The factor loading value is expected to be above a certain value in order not to eliminate items that measure a certain construct by being under a factor. A factor loading value of 0.45 or higher is considered good. As a result of the factor analysis, it was seen that the scale had a unidimensional structure and factor loadings above 0.45. As a result of the Cronbach's alpha reliability analysis, a coefficient of .89 was calculated. These findings indicate that the measurement tool developed to measure prospective teachers' mobile learning acceptance behaviors is reliable and valid.

Attitude Scale towards Mobile Learning

In this study, "M-Learning Attitude Scale" developed by Khaddage & Knezek (2013) was used as a data collection tool to determine prospective teachers' attitudes towards mobile learning. In the Personal Information Form, there were questions including demographic information to determine the gender, grade, department and age of the participants. The M-Learning Attitude Scale was prepared to determine students' attitudes towards mobile learning. Following the factor analysis conducted by the researcher who developed the M-Learning Attitude Scale, the items with factor loading values above 0.40 were selected and the scale consisting of 7 items was finalized. The internal consistency coefficient (Cronbach alpha) of the scale was measured as 0.847. As a result of the application of the scale to the study group within the scope of this research, the internal consistency coefficient was found to be 0.86. The items in the scale are arranged on a 5-point Likert scale as "*Strongly agre*e", "*Agre*e", "*Undecided*", "*Disagree*", "*Strongly disagree*". For the mobile learning attitude scale, positive statements were scored as 5-4-3-3-2-1 and negative statements were scored as 1-2-3-3-4-5. For the analysis and interpretation of the data, the five-point scale ranges; 4.20-5.00 range represents very high level, 3.40-4.19 represents high level, 2.60-3.39 represents medium level, 3.80-2.59 represents low level and 1.00-1.79 represents very low level.

Data Analysis

The data obtained from prospective teachers were entered into the computerized statistical package program SPSS 26 and evaluated. Independent samples t-test and analysis of variance (ANOVA) were performed to determine whether there was a significant difference between their attitudes and acceptance levels towards mobile technologies according to the variables of evaluating their status towards general mobile technologies, gender and class. The significance level was accepted as .05 in all statistical analyzes conducted in the study.

Findings

Table 1 shows the minimum, maximum, mean and standard deviation values of the mobile learning acceptance behavior and attitude scale. The minimum values of the prospective teachers from the two scales vary between 1.52 and 1.85. The minimum value of the mobile learning acceptance behavior scale is 1.52. The maximum value of this scale is 4.75. The minimum value of the attitude towards mobile learning scale is 1.85. The maximum value of this scale is 5.00. The mean values of the two scales are 3.16 and 4.00. The variable with a low mean value is mobile learning behavior. The variable with a high mean value is attitudes towards mobile learning. The standard deviation values of the scales vary between 0.32 and 0.48. According to these descriptive data, it was found that prospective teachers had a moderate level of mobile learning acceptance behavior, but developed high and positive attitudes.

Table 1. Descriptive Analysis of Prospective Teachers' Mobile Learning Acceptance Behaviors and Attitudes towards Mobile Learning

	N	Minimum	Maximum	Mean	Std. Deviation
Acceptance	260	1.52	4.75	3.16	0.32
Attitude	260	1.85	5.00	4.00	0.48

Table 2 and Table 3 show the comparison of the mean scores calculated according to the gender of the participant prospective teachers.

Table 2. Mean Scores and t Values Calculated According to the Gender of Prospective Teachers in the Mobile Learning Acceptance Behavior Scale

		N	Mean	Std. Deviation	t	P
Acceptance	Female	146	3.03	0.25	-2.03	0.045
	Male	114	3.30	0.39		

Independent Sample t test was used to compare the mobile learning acceptance behaviors of prospective teachers according to their gender. A t value of 2.03 was calculated between the mobile learning acceptance behavior scores of the two groups. This finding shows that there is a significant difference between male and female prospective teachers in terms of mobile learning acceptance behaviors, and the mean acceptance behavior of males is higher than females.

Table 3. Mean Scores and t Values Calculated According to the Gender of Prospective Teachers in the Attitude Scale towards Mobile Learning

		N	Mean	Std. Deviation	t	p
Attitude	Female	146	4.09	0.43	3.80	0.000
	Male	114	3.87	0.51		

Independent Sample t test was used to compare prospective teachers' attitudes towards mobile learning according to their gender. A t value of 3.80 was calculated between the attitudes towards mobile learning scores of the two groups. This shows that there is a significant difference between male and female prospective teachers in terms of attitudes towards mobile learning, and that the mean attitude scores of women are higher than men. Table 4 and Table 5 show the comparison findings between prospective teachers' mobile learning acceptance behaviors and attitudes towards mobile learning scores according to their grade levels.

Table 4. Mean Scores and t Values Calculated According to the Class Levels of Prospective Teachers in the Mobile Learning Acceptance Behavior Scale

	Grade level	N	Mean	Std. Deviation	F	p
Acceptance	1	48	3.21	0.44	0.562	0.640
	2	83	3.15	0.29		
	3	58	3.16	0.34		
	4	71	3.13	0.23		
	Total	260	3.16	0.32		

One-way analysis of variance (ANOVA) was conducted to determine whether there was a significant relationship between mobile learning acceptance behavior scores and grade levels. ANOVA is used to test whether there is a significant difference between the mean values of two or more groups (Lorcu, 2015). When the ANOVA results were examined, it was found that different grade levels did not have a significant relationship with mobile learning acceptance behavior ($p>0.05$).

Table 5. Mean Scores and t Values of Prospective Teachers' Attitudes toward Mobile Learning Scale Calculated According to Class Levels

	Grade level	N	Mean	Std. Dev.	t	p
Attitude	1	48	4.10	0.35	6.024	0.001
	2	83	4.12	0.43		
	3	58	3.95	0.37		
	4	71	3.83	0.61		
	Total	260	4.00	0.48		

One-way analysis of variance (ANOVA) was used to determine whether there was a significant relationship between attitudes towards mobile learning scores and grade levels. When the ANOVA results were analyzed, it was found that different grade levels had a significant relationship with attitudes towards mobile learning

($p<0.05$). After this point, Post Hoc test was performed to determine which groups the difference was between. According to the analysis, it was found that prospective teachers studying in the 1st and 2nd grades had positive and high level attitudes towards mobile learning compared to prospective teachers studying in the 3rd and 4th grades. The regression analysis values calculated for the relationships between prospective teachers' attitudes towards mobile learning and their mobile learning acceptance behaviors are shown in Table 6.

Table 6. The Effect of Prospective Teachers' Attitudes towards Mobile Learning on their Mobile Learning Acceptance Behaviors

Independent Variable	R	R^2	F	p
Mobile Attitude Towards Learning	.336	0.113	11.85	0.001

The last finding of the study is about the effects of attitudes towards mobile learning on mobile learning acceptance behavior. To test this problem, in the related model, the effect of the independent variable, attitudes towards mobile learning, on acceptance behavior was tested. The results show that attitudes towards mobile learning have a positive and significant effect on mobile learning acceptance behavior ($F = 11.85$, $p < 0.001$). Attitudes towards mobile learning explained 11.3% of the variation in explaining mobile learning acceptance behavior. In other words, as attitudes towards mobile learning increase in prospective teachers, acceptance of mobile learning behavior increases.

Discussion and Conclusion

The purpose of this study was to examine the relationship between the gender and grade level of prospective teachers and their acceptance of mobile learning and their attitudes towards mobile learning. According to the findings of the study, it was found that Kazakhstani prospective teachers' acceptance of mobile learning behaviors were moderate, while their attitudes towards mobile learning were positive and high. These findings are similar to the research findings of Al-Fahad (2009), Aliaño et al. (2019), Badwelan et al. (2016), Chen, Chang, & Wang (2008), Kuciapski (2016), Lin & Lin (2016), Nikolopoulou (2018), Pruet, Ang & Farzin (2016), Pullen et al. (2015), Sharples, Taylor, & Vavoula (2005), Woodcock et al. Woodcock et al. (2012) stated that students' willingness to accept and use new and different technologies they encounter is important for the successful realization of mobile learning. Considering the positive effects of mobile learning on prospective teachers and learners, participants' acceptance behaviors and attitudes towards mobile learning are important, but the number of mobile learning studies related to teacher education is very limited. According to Sharples, Taylor, & Vavoula (2005), prospective teachers emphasize that mobile learning eliminates limitations such as time and space dependency (Sharples, Taylor, & Vavoula, 2005). According to Chen, Chang, and Wang (2008), prospective teachers have many advantages of mobile learning such as storing data, allowing all kinds of sharing, providing easy access to course documents outside the classroom, enabling learning according to individual speed, preventing paper waste, and accessing information in a short time. According to Fasae and Adegbilero-Iwari (2016) and Sutherland, Davis, Terton, and Visser (2018), there is a significant increase in the level of use of mobile platforms by university students to share content and messages required by their knowledge and expertise. The results of this study also support the findings of these studies. In addition, in order to use mobile learning

effectively, prospective teachers should have the skills to use technology, be open, ready and curious to learn. Both the findings of the literature and the quantitative findings of this study suggest that prospective teachers express positive needs and develop positive attitudes towards mobile learning in many aspects.

Another finding of the study is the relationship between prospective teachers' acceptance behaviors and attitudes towards mobile learning and their gender. According to the analysis, Kazakhstani female prospective teachers have more positive attitudes towards mobile learning. On the other hand, mobile learning acceptance behaviors of male prospective mobile learning teachers were found to be high. This finding is supported by the research findings of Esen (2010), Liaw & Huang (2009), Tanrıverdi and Sağır (2014). At this point, it is seen that male students spend more time on mobile learning tools and social media than their female peers, use social media more, and are more engaged in mobile communication applications. In the literature, it is seen that gender difference studies have been conducted with more general samples such as university students. In some of these studies, women exhibited higher attitudes (McGowan & Partridge, 2014), while in others, no difference was found between the groups (Alsolamy, 2017). Another finding of this study is the relationship between the grade level of the participant prospective teachers and their acceptance and attitudes towards mobile learning. According to the research findings, prospective teachers studying in lower grades accept mobile learning more and have high positive attitudes. As the grade level and age increase, the use and adoption behaviors of mobile learning tools decrease (Al-Emran, Elsherif & Shaalan, 2009; Wang, Wu & Wang, 2009). These findings are similar to the findings of the Pew Research Center's (2018) international social media usage survival study. According to the findings of this study, younger and younger Americans (especially those between the ages of 18 and 20) are significantly more likely to be interested in and frequent users of various platforms.

The last finding of this study is the relationship between Kazakhstani prospective teachers' acceptance behaviors towards mobile technologies and their attitudes towards these technologies. According to regression analyses, it was found that the participant prospective teachers' attitudes towards mobile technologies significantly affected their acceptance behaviors. These findings are similar to the results of studies conducted by Çetin, Çalışkan, and Menzi (2012), Lee, Cheung, and Chen (2005), Lei (2009), and Park (2009). Çetin, Çalışkan, and Menzi (2012) found that as the frequency of mobile technology use of prospective teachers increased, both their attitudes towards technology and their technology competencies increased. As teachers' interest and attitudes towards mobile technologies increase, their technology acceptance is high. Lei (2009) examined prospective teachers' attitudes towards technology and found that prospective teachers believe that technology can help them teach better and help their students learn better. On the other hand, as seen in the literature, the participants' perception of technology as useful and important greatly affects their use and acceptance behaviors.

The widespread use of mobile learning tools today has been revealed by many studies. The habits, attitudes and behaviors of prospective teachers regarding the use of mobile learning tools and the purpose for which they use these platforms significantly affect their life skills and the efficiency of the education and training process. In this respect, determining prospective teachers' acceptance and attitudes towards mobile learning and related variables will make important contributions to the field. It is an indisputable fact that mobile tools are used in all areas of life and are an indispensable technology. Today, it is important to use mobile tools consciously and efficiently, especially among prospective teachers. As a result, in this study, it is understood that Kazakhstani prospective

teachers have positive attitudes towards mobile learning and partially accept this technology. Better internet connections should be provided to ensure efficient and purposeful use of mobile learning tools among prospective teachers. Universities can make the use of mobile learning a part of the teaching process. In this context, content can be embedded in university curricula to enable prospective teachers to develop skills in the use of these media so that students can effectively cope with emerging global trends. Future studies could explore ways of using technology to engage prospective teachers and learners at all levels of education. Experimental and mixed-model research can be conducted on the impact of mobile learning in teacher education. By collecting similar proportions of data from prospective teachers in all branches, the differences in mobile learning acceptance levels and attitudes by branch can be examined. In addition, it is thought that the development of different mobile learning platforms and applications will be beneficial in terms of enriching and increasing the quality of education.

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