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Pre-Service Teachers' Readiness Levels for Mobile Learning

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Abstract: *The purpose of this research is to determine how active the students are participating in the mobile learning process, as well as how active the distance education mobile learning and technological tools are in education due to the Covid-19 epidemic in today's world. determination. With this, the Mobile Learning Readiness Scale adapted by Şata, Çorbacı and Koyuncu (2019) was used in this study. The scale consists of three dimensions: optimism towards mobile learning, self-directed learning and self-efficacy. The participants of the study, on the other hand, consist of 25 Primary Education students and 42 Special Education students who are continuing their education life in the Northern Cyprus. It was concluded that their readiness for mobile learning was high.*

Keywords: *Education, Online Education, Mobile learning.*

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1. Introduction

The effects of technological developments are increasing day by day in the universe that human beings have lived in. These effects are seen in the field of education as in every field and ensure the restructuring of education systems. Technology has shortened the speed of accessing information and the reconstruction period, and has begun to replace traditional methods (Çakır, 2019). These developments both increased the importance given to education and led to the emergence of new insights to be included in education (Yılmaz, 2017). Education has been around since the first time people set foot on earth. Of course, education has experienced changes until it reaches today's level, but these changes have emerged as a result of developments in technology and other fields (Ayas, 2013). It can be said that the quality of education has increased with the increase in the number of tools and materials in the learning environment together with the changes in the educational content with the technological developments (Uras & Kurşunoğlu, 2019; Bicen & Demir, 2020). With technology being a part of human life, it is inevitable that it reaches the field of education. With this interaction, the concept of educational technology has emerged widely used today (Çakır, 2019). Educational technology is the functional structuring of learning or training processes by employing relevant knowledge and skills in order to dominate education in general and learning situation in particular. In other words, it is the design, implementation, evaluation and development of learning-teaching processes (Alkan, 2011). It can be said that together with educational technology, technology enables individuals to be more creative in the field of education, the roles of their teachers are expanded, as well as the motivation of students to the lessons (Uşun, 2000). The intertwining of technology and education and the increase in learning activities have revealed new learning styles (Yılmaz, 2011; Danju et all., 2020). One of the most popular of these styles today is mobile learning. More than one definition can be made today about mobile learning. Some of these definitions are as follows; Mobile learning is the learning environment that emerges with the use of mobile technologies in education (Keengwe & Bhargava, 2014). According to Behera (2013), it is an idea that students can learn wherever and whenever they want by using portable technological devices. In Ocak and Topal (2013), mobile learning is a distance education model that meets the educational needs of the individual with mobile devices. Based on the definitions made, if it is considered in a general way, mobile learning means that an education or training activity is performed by mobile devices at any time and place as long as technological opportunities

allow (Çakır, 2019). Mobile learning can take place in the same way as other learning systems, as well as in distance learning and lifelong learning. For this reason, various different perspectives have been formed for mobile learning. These perspectives consist of 4 main topics (Sharples, 2007). These headings are respectively e-learning, learner, Technology and formal education-oriented perspectives. The e-learning-oriented perspective states that e-learning is inclusive and mobile learning is an extension of e-learning. The learner-oriented perspective, on the other hand, is a point of view that states that the learner, whose student is at the center of the process, is responsible for his own learning. The technology-oriented perspective states that technological tools are at the forefront and learning takes place with the effectiveness of technological tools (Nacak et al., 2020). The perspective that focuses on the development of formal education is a perspective that enables mobile learning to take place on a specific program and improve education. Certain tools and materials are required for mobile learning to take place. With the technological developments in today's digital age, there are multiple devices to support mobile learning. These devices; Devices such as mobile phones, Tablet computers, Notebook computers, Pocket computers, E-book readers, smart watches, virtual reality glasses support mobile learning with these devices, mobile learning takes place in 3 ways as Online, Offline and Mixed (Aydoğdu, 2019). It is a method that occurs continuously connected to a specific online network and ensures that information is constantly kept up to date. Offline, on the other hand, is a mobile learning method that does not require a specific network connection, but is installed on the deviceMixed, on the other hand, is the method in which both online and offline mobile learning methods are used together, and local content is used in certain areas where network connectivity is required (Aydoğdu, 2019). The strengths and disadvantages of mobile learning, in which the studies on mobile learning were examined, were determined (Vatansever 2016). The strengths of mobile learning can be given as follows;

1. Ensuring that education takes place independent of the learning environment and time
2. Ensuring that learners increase their motivation for learning.
3. It allows learning in a different way in life
4. Awareness of learners' abilities and providing an individualized learning.
5. It is easy to use and easy to access, as well as combining with gamification.

6. By supporting activities outside of the learning environment, it ensures that time is used more effectively.

If we talk about the negative and disadvantages, Mobile learning;

1. Considering continuous training, the battery life of the device to be used is a problem

2. The emergence of technology-based failures such as network connectivity problems and memory

3.Learners experiencing difficulties in their social lives due to the fact that it may cause technology addiction

4. The emergence of security, privacy and cost problems (Saraç, 2014).

Mobile learning is a learning area with many studies in the relevant literature, although it has advantages as well as disadvantages with the development of technology that does not have a certain standard space and time concept. However, when the literature was examined, there was no study that measured pre-service teachers' readiness for mobile learning. Learning with portable mobile devices is a relatively new trend today. In this respect, it is important to determine the opinions of teacher candidates about learning about portable devices and their level of readiness. The main purpose of this research is to measure pre-service teachers' readiness for mobile learning. With this general purpose, teacher candidates';

1. What are the optimism levels towards mobile learning?

2. What are the self-directed learning levels for mobile learning?

3. What are the mobile learning self-efficacy levels for mobile learning? Answers to questions will be sought.

2. Method

2.1. Research Model

The scanning method, which is one of the quantitative research types, was used in the research. Although the scanning method is a model that describes and explains a phenomenon from the past to the present, it is a model that describes and explains the student, situation and objects in the studies in its simplest form. (Karasar, 2020).

2.2. Sample

The universe of the study consists of 25 Classroom Teachers and 42 Special Education teacher candidates studying at universities in Nicosia, in the Northern Cyprus, in the 2019-2020 academic year. Teacher candidates

3.-4. It consists of classes. The participation of the teacher candidates was done on a voluntary basis.

2.3. Data Collection Tools

Within the scope of the research, the Mobile Learning Readiness Scale adapted by Şata, Çorbacı and Koyuncu (2019) was used. Although the scale is 7-point Likert type, " 1 " Strongly Disagree, " 2 " Disagree, " 3 " Somewhat Disagree, " 4 " Undecided, " 5 " Somewhat Agree, " 6 ' The answer is "I agree," "7", "Absolutely Agree." In line with the scale, the averages of the pre-service teachers' adaptation to the mobile learning process and the answers they gave to the scale were interpreted as a table.

2.4. Data Analysis

The data obtained in the study were analyzed with SPSS 17 statistical program and reliability validity tests were performed. Pearson Correlation was used in the analysis of the data. Results frequency (n) distribution is presented in summary tables consisting of means. Each item in the scale was scored from 1 to 7, and the answers given to the options were calculated as points and averaged accordingly. In all analyzes, the significance level was taken as 5% (p = 0.05).

3. Findings

3.1. What are the pre-service teachers' optimism levels towards mobile learning?

Table 1 *The Answers That The Classroom Teacher Candidates Given to the Dimension of Mobile Learning Optimism*

	N	Minimum	Maximum	Mean	Std. Deviation
Mobile learning systems give people more control over their working hours.	25	1,00	7,00	3,6	1,73205
The latest mobile learning system is more suitable for use.	25	2,00	7,00	4,2	1,36260
I like working with mobile learning systems because I can work whenever I want.	25	2,00	7,00	4,4	1,55456
I like mobile learning systems.	25	2,00	7,00	4,9	1,48549

I like mobile learning systems that allow me to operate according to my own needs.	25	1,00	7,00	4,8	2,07525
Mobile learning systems enable me to be more efficient while working.	25	2,00	7,00	5,0	1,58114
Mobile learning systems give me more freedom to work.	25	1,00	7,00	5,3	1,46856
Valid N (listwise)	**25**				

Source: Authors' own conception

When Table 1 is examined, when the answers given to the questions measuring the optimism level of the classroom teacher candidates for mobile learning are examined, it is seen that the highest score per question in the scoring of the scale is 7, so that the item with the highest average scores is almost above the average of 5.3. " While mobile learning systems give me more freedom to work ", it was concluded that the item with the lowest average was "Mobile learning systems give people more control over working hours" with a rate of 3.6

Table 2 Responses of Special Education Teacher Candidates to the Dimension of Optimism Towards Mobile Learning

	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Mobile learning systems give people more control over their working hours.	42	1,00	7,00	4,1	2,06892
The latest mobile learning system is more suitable for use.	42	1,00	7,00	4,2	1,91497
I like working with mobile learning systems because I can work whenever I want.	42	1,00	7,00	4,8	1,68090
I like mobile learning systems.	42	1,00	7,00	5,2	1,69750
I like mobile learning systems that allow me to operate according to my own needs.	42	1,00	7,00	5,1	1,72262
Mobile learning systems enable me to be more efficient while working.	42	1,00	7,00	5,2	1,64980
Mobile learning systems give me more freedom to work.	42	1,00	7,00	5,2	1,61978

	N	Minimum	Maximum	Mean	Std. Deviation
Mobile learning systems give people more control over their working hours.	42	1,00	7,00	4,1	2,06892
The latest mobile learning system is more suitable for use.	42	1,00	7,00	4,2	1,91497
I like working with mobile learning systems because I can work whenever I want.	42	1,00	7,00	4,8	1,68090
I like mobile learning systems.	42	1,00	7,00	5,2	1,69750
I like mobile learning systems that allow me to operate according to my own needs.	42	1,00	7,00	5,1	1,72262
Mobile learning systems enable me to be more efficient while working.	42	1,00	7,00	5,2	1,64980
Mobile learning systems give me more freedom to work.	42	1,00	7,00	5,2	1,61978
Valid N (listwise)	**42**				

Source: Authors' own conception

When Table 2 is examined, it is seen that there is no significant difference according to the responses of the special education teacher candidates to the elementary teacher candidates' optimism towards mobile learning dimension.According to this, when the answers given by the special education teacher candidates are examined, the items with the highest average are 'I love mobile learning systems' with 5.2. ", " Mobile learning systems enable me to be more efficient while working " and " Mobile learning systems give me more freedom to work ". It appears to be. According to the answers given by the special education teacher candidates, the item with the lowest average was "Mobile learning systems give people more control over working hours" with a ratio of 4.1.

3.2. Self-directed learning levels of pre-service teachers for mobile learning

Table 3 *Primary Teacher Candidates' Answers Given to the Items Regarding Self-Directed Learning*

	N	Minimum	Maximum	Mean	Std. Deviation
During my learning, study and (work-related) study, is it disciplined and it is easy for me to devote time to learning	25	2,00	7,00	4,9	1,57903
I set goals in my work and have a high degree of initiative	25	3,00	7,00	5,5	1,47535
I implement my own study plan	25	2,00	7,00	4,8	1,83303
I manage time well	25	2,00	7,00	5,0	1,44338
I can direct my own learning process	25	1,00	7,00	4,6	1,89033
Valid N (listwise)	25				

Source: Authors' own conception

When the responses of elementary teachers' mobile learning readiness to self-directed learning were examined, the item `` I set goals in my studies and I have a high level of initiative '' received the highest rate, and the item `` I can direct my own learning process' ' It was concluded that there were the answers with the lowest average among the answers given with a ratio of 4.6.

Table 4 *Responses of Special Education Teacher Candidates to the Items for Self-Directed Learning*

	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
During my learning, study and (work-related) study, is it disciplined and it is easy for me to devote time to learning	42	1,00	7,00	5,2	1,73505
I have a high degree of assertiveness and setting goals in my work	42	1,00	7,00	5,2	1,76682
I implement my own study plan	42	1,00	7,00	5,1	1,62592
I manage time well	42	1,00	7,00	5,2	1,81356
I can direct my own learning process	42	1,00	7,00	5,3	1,82438

	N	Minimum	Maximum	Mean	Std. Deviation
During my learning, study and (work-related) study, is it disciplined and it is easy for me to devote time to learning	42	1,00	7,00	5,2	1,73505
I have a high degree of assertiveness and setting goals in my work	42	1,00	7,00	5,2	1,76682
I implement my own study plan	42	1,00	7,00	5,1	1,62592
I manage time well	42	1,00	7,00	5,2	1,81356
I can direct my own learning process	42	1,00	7,00	5,3	1,82438
Valid N (listwise)	42				

Source: Authors' own conception

When the answers given by Special Education Teachers to self-directed learning are examined, it can be said that the average is parallel to the answers given by the elementary teacher candidates.According to the answers given by the special education teacher, the highest average was given by the teacher candidates with 5.3 ratio. I can direct my process ". The lowest rate was "I apply my own work plan" with a rate of 5.1. "

3.3 What are the Pre-Service Teachers' Mobile Learning Self-Efficacy for Mobile Learning?

Table 5 *Classroom Teacher Candidates' Mobile Learning Self-Efficacy Dimension*

	N	Minimum	Maximum	Mean	Std. Deviation
I am confident in using mobile learning systems while working	25	3,00	7,00	5,5	1,35769
I am confident to know all the special keys and functions in a mobile learning system	25	1,00	7,00	5,0	1,67033
I am confident to know how a mobile learning system works	25	2,00	7,00	5,4	1,58325
I am confident in applying the basic functions of mobile learning systems	25	1,00	7,00	5,0	1,83666
I trust my knowledge and skills about mobile learning systems	25	3,00	7,00	5,3	1,57374

I am confident in using the internet (Google, Yahoo) to gather or find information for mobile learning	25	2,00	7,00	5,2	1,69017
I am confident in using mobile learning systems to communicate effectively with others	25	2,00	7,00	5,2	1,30000
Valid N (listwise)	25				

Source: Authors' own conception

When the answers given by the elementary teacher candidates to the items in the self-efficacy dimension for mobile learning were examined, it was concluded that the item with the highest rate was `` I am confident in using mobile learning systems while working " with an average of 5.5. and "I have confidence in knowing all the special keys and functions in a mobile learning system and" I trust myself in applying the basic functions of mobile learning systems ".

Table 6 *Responses of Private Teacher Candidates to the Dimension of Mobile Learning Self-Efficacy*

	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
I am confident in using mobile learning systems while working	42	1,00	7,00	5,4	1,60703
I am confident to know all the special keys and functions in a mobile learning system	42	1,00	7,00	5,3	1,55263
I am confident to know how a mobile learning system works	42	1,00	7,00	5,2	1,69082
I am confident in applying the basic functions of mobile learning systems	42	1,00	7,00	5,4	1,61489
I trust my knowledge and skills about mobile learning systems	42	1,00	22,00	5,7	2,50779
I am confident in using the internet (Google, Yahoo) to gather or find information for mobile learning	42	1,00	7,00	5,4	1,57992
I am confident in using mobile learning systems to communicate effectively with others	42	1,00	7,00	5,4	1,59899

	N	Minimum	Maximum	Mean	Std. Deviation
I am confident in using mobile learning systems while working	42	1,00	7,00	5,4	1,60703
I am confident to know all the special keys and functions in a mobile learning system	42	1,00	7,00	5,3	1,55263
I am confident to know how a mobile learning system works	42	1,00	7,00	5,2	1,69082
I am confident in applying the basic functions of mobile learning systems	42	1,00	7,00	5,4	1,61489
I trust my knowledge and skills about mobile learning systems	42	1,00	22,00	5,7	2,50779
I am confident in using the internet (Google, Yahoo) to gather or find information for mobile learning	42	1,00	7,00	5,4	1,57992
I am confident in using mobile learning systems to communicate effectively with others	42	1,00	7,00	5,4	1,59899
Valid N (listwise)	42				

Source: Authors' own conception

When examining the answers given for the mobile learning self-efficacy dimension of the special education teacher candidates, it is seen that it is above the average as given by the classroom teacher candidates and the highest rate is 5.7, unlike the answer given by the elementary teacher candidates. and I trust my skills. " The lowest rate was 5.2, unlike the answer given by the elementary teacher candidates, "I trust myself in knowing how a mobile learning system works".

4. Conclusion and Discussion

According to the results obtained in the light of the responses of the pre-service teachers, which is the first sub-problem of the study, to the optimism dimension of mobile learning, it was concluded that pre-service teachers answered closer to the average level of only one item in which the optimism rates for mobile learning were above the average, but their readiness for mobile learning was generally optimistic. It was concluded that the answers regarding the size of the study were above average. When examining the answers given to the optimism dimension of the mobile

learning readiness scale, it was concluded that there was no significant difference in parallel with the answers given by the primary school teacher candidates who generally gave answers to all items above the average, and the 2 departments 'pre-service teachers' optimism dimension was also observed. It was concluded that he gave above average answers. Arslan (2019). In his study, which examined the readiness of Vocational School Students for Mobile Learning, he measured the readiness of vocational school students for mobile learning in terms of various variables, and according to the results he found that the demographic environment of the students and the answers they answered on the scale differ significantly from each other in contrast to this study.

Considering the answers given to the teacher candidates 'self-directed learning levels towards mobile learning, the second sub-problem of the study, it was found that the classroom teacher candidates' attitudes towards the items in the self-directed learning dimension of the scale were above average and it was seen that they did not have a low average answer in any way. Special education teacher candidates answered all of the items in a way that is above the average, but the primary education teacher candidates gave the lowest average answers to the item "I can direct my own learning process", while the special education teacher candidates gave the highest average answers to this item. Artsın, Koçdar, and Bozkurt (2020) examined students' self-directed learning skills in mass open online courses in terms of various variables in their study, Investigating Self-Directed Learning Skills of Learners in the Context of Mass Open Online Courses. They reached the conclusion that they differed significantly.

When the results obtained regarding the levels of Mobile Learning Self-Efficacy for Mobile Learning, the last sub-problem of the study, were examined, it was found that the answers given by the classroom teacher candidates to all the items were generally above the average, as in the first two sub-problems. As in the first two sub-problems, in parallel with the pre-service teachers of special education, it is concluded that the answers given in general are above the average, but it can be said that the answers given are parallel to the two branch teacher candidates and the results are almost the same. Elçiçek and Karal (2019) examined how pre-service teachers are ready for mobile learning from their perspective, and they concluded that the pre-service teachers' self-efficacy supports the result of this study despite mobile learning and their self-efficacy is high. As a general result of the study, it was determined that the results given by the pre-service teachers of two departments for all parts of the scale were above average and their readiness level for mobile learning was above average.

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