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MOBILE ASSISTED LANGUAGE LEARNING (MALL): LEARNING ATTITUDES OF GEOGRAPHY STUDENTS TOWARDS MOBILE ENGLISH LANGUAGE LEARNING

Research article

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Abstract

The influence of mobile devices in the field of education is increasing day by day. The purpose of this research is to examine the attitudes towards Mobile Assisted Language (English) Learning and the effects of some variables on the attitudes of geography students. The study was conducted with 203 students studying at the Geography Department of a state university in the fall semester of the 2022-2023 academic year. Data in the study was collected through the Information Form, and English Mobile Learning Attitude Scale (EMLAS). SPSS 22.0 program was used in the analysis of the data. The participants' mean scores on the EMLAS sub-dimension and total score were 3.87 (SD=0.81) for "Behavior", 3.86 (SD=0.80) for "Perceived Control", 3.71 (SD=0.94) for "Affection'', 3.66 (SD= 0.73) for "Perceived Usefulness" and 3.75 (SD=0.59) for "EMLAS total". While there was no significant difference in terms of gender, grade, best English skill, and having a language score ($p>0.05$), a significant difference was found in terms of the level of English, the desire to do postgraduate education, the belief in the necessity of learning English, the positive attitude towards learning English with mobile devices, and finding the distance education English courses at the university useful ($p<0.05$). The findings show that geography department students had positive attitudes towards how mobile devices were used, how these devices controlled and impacted learning English. The findings suggest that including Mobile Assisted Language Learning (MALL) in the geography teaching plan would be beneficial.

Key Words: Mobile Assisted Language Learning, Geography, English, Attitude

1. Introduction

Today, the development and acceleration of internet technology affects many areas varying from health to education, from industry to transportation, from government services to individual services. Especially the use of developing internet technology on mobile devices allows this service and comfort to be reached everywhere. Mobile phones being on top of the list, laptop, tablet, e-book reader, gaming gadgets and so forth contribute to the mobility of individuals and make life easier. Particularly with the shrinking dimensions and increasing portability, education is also turning into an area where mobile devices and technologies are used more and more.

In recent years, using mobile technologies and supporting lifelong learning with mobile technologies have come to the fore, and mobile technologies are increasingly being introduced as technologies that improve learning (Rogers et al., 2010). Mobile devices, too, are constantly evolving and improving with their capabilities and processing power, affecting the way we do business. Thus, one of the affected areas is learning and teaching activities (Moses, 2008), where a new concept, "mobile learning", emerges.

Mobile learning is learning that can be used anytime, anywhere with the help of portable devices (Kukulska-Hulme & Shield, 2008). Although mobile learning (M-learning) was a part of e-learning in the 1990s, the increasing sophistication, smallness, and portability of technology today, as well as the mastery of those using them, has increased the importance of m-learning in education (Crescente & Lee, 2011). M-learning is a new form of learning that is further developed with information and communication technologies (ICT), which is rapidly growing and emerging as an alternative form of education (Lowenthal, 2010; Stošić & Bogdanović, 2013).

Today, it is thought that M-learning has turned into a discipline and M-learning applications will grow and develop further with the technological advancement of mobile devices (Crescente & Lee, 2011). Numerous studies conducted in the last decade (Martin & Ertzberger, 2013; Dennen & Hao, 2014; Al-Emran et al., 2016; Kaliisa & Picard, 2017; Willemse et al., 2019) reveal the importance of mobile learning, and similarly, mobile technologies and its use (Traxler, 2010; Wingkvist & Ericsson, 2011; Parsons, 2014; Crompton et al., 2016; Lai, 2020) draws attention in the literature.

There are also different studies that evaluate the use of mobile learning in higher education (Crompton & Burke, 2018), the use of iPad in higher education (Churchill & Wang, 2014), big data analysis by moving the mobile learning to the cloud environment (Shorfuzzaman et al., 2019), and lifelong learning and mobile learning together through the description of mobile lifelong learning (mLLL) (Seta et al., 2014). In a study by Krull & Duart (2017) on mobile learning, it was emphasized that mobile phones are still the most common mobile learning devices, tablets are becoming more and more popular, it is possible to learn with many different devices, mobile learning and social networks and augmented reality applications are important. Similarly, Al-Emran et al. (2016) think that mobile learning in higher education may be a promising pedagogical technology in the Arab Gulf countries in the future.

When the literature in Turkey is examined, mobile learning (Elçiçek & Karal, 2019; Aktaş et al., 2021; Güzel & Elkıran, 2021; Özcan, 2022) has been discussed in different studies. In a study conducted by Özcan (2022) with pre-service teachers, it is suggested that digital literacy and mobile learning skills should be included among the professional competence conditions of novice teachers and that course activities should be integrated with a technology-based system. Especially with COVID-19, the importance of mobile technologies has been understood once again and "mobile learning" has become an important element of distance education. In this process, the need for mobile technologies and mobile learning has peaked, student and instructor interaction has been moved to the digital environment, the need for space has disappeared and mobilization has gained importance. Considering the possibility of COVID-19 like situations in the future, mobile learning seems to be up to date as an alternative learning style.

On the other hand, the fact that mobile technologies (mainly mobile phones, laptop computers, tablets and other technologies that allow visual and audio communication) are extremely suitable for use in language learning also makes these technologies advantageous. In recent years, mobile technologies, where even dictionaries have been moved into portable devices, are increasingly making their weight felt in language learning. Recently, this type of learning is called Mobile-Assisted Language Learning (MALL) in the literature. MALL is defined as the use of mobile technologies in language learning, as stated in the study carried out by Okumuş Dağdeler & Demiröz (2022), with ELT instructors in English teaching departments of universities.

Especially in the last decade, the effect of mobile technologies on language learning has attracted the attention of many scientists and several studies on this subject (Hsu, 2013; Yudhiantara & Nasir, 2017; Azli et al., 2018; Alrefaai, 2019; Xu, 2020; Ta'amneh, 2021; Annamalai et al., 2022; Boudjelal, 2022; Pham, 2022). In these studies, the effects of mobile phones on language learning, their contributions to EFL and ESL, the effectiveness of digital language learning applications, the evaluation of MALL from the perspective of instructors, meta-analysis and literature review studies on MALL are examined. Besides the international studies in the relevant literature, the studies in Turkey are more recent (Önal & Tanık Önal, 2019; Okumuş Dağdeler & Demiröz, 2022; İner et al., 2022).

Mobile learning attitudes towards learning English, especially in the field of geography, have not been investigated at all. It is very important to determine the attitudes of young people who use these technologies well, and especially university students, towards language learning, especially English, by using mobile devices. To bring new studies to the literature in Turkey, this study was carried out with the students of the geography department using a scale adapted to Turkish (Önal & Tanık Önal, 2019). Participant attitudes were examined, and an analysis was made in terms of effective variables. Within the framework of these determined objectives, answers were sought to the following research questions:

a) What is the level of mobile learning attitudes of geography department students towards learning English?
b) Which variables affect the mobile learning attitudes of geography department students towards learning English?

2. Methodology

2.1. Research Design

In survey research, data is obtained and analyzed from the whole population or the sample gathered through survey methods. In quantitative research, reaching generalizations is aimed and the data are brought together and evaluated numerically (Sayım, 2019). This study is also a descriptive survey design.

2.2. Sampling

The study was carried out at the end of the fall semester of the 2022-2023 academic year, with students studying at the Geography Department of the Faculty of Science and Letters at Tokat Gaziosmanpaşa University. The sample consisted of 203 students who agreed to participate in the research and of these students, 103 (50.7%) were female and 100 (49.3%) were male. The mean age of the sample is 21.26 (SD=3.07) (Minimum=18, Maximum=43), and the mean daily internet usage time is 5.24 (SD=2.54) (Minimum=1, Maximum=16) hours. The demographic and academic characteristics of the participants in the sample are given in Table 1.

Table 1. *Demographic and academic characteristics of the participants*

Variables	f	%	Variables	f	%
Grade			Perceptions of distance English education at the university		
Freshman	50	24.6	Useful	48	23.6
Sophomore	49	24.1	Undecided	79	38.9
Junior	52	25.6	Useless	76	37.4
Senior	52	25.6			
Desire to pursue graduate studies			Best language skill		
Yes	64	31.5	Reading	73	36.0
Undecided	84	41.4	Writing	32	15.8
Unwilling	55	27.1	Listening	78	38.4
			Speaking	20	9.9
Belief in the necessity to learn English			Level of English		
Believing	172	84.7	Beginner	95	46.8
Undecided	31	15.3	Elementary	72	35.5
Not believing	-	-	Intermediate	31	15.3
			Upper-intermediate	4	2.0
			Advanced	1	0.5
Attitude to learning English with mobile devices			Score from language tests (YDS, YÖKDİL, IELTS, and TOFEL vb.)		
Positive	117	57.6	With a score	7	3.4
Undecided	67	33.0	Without a score	196	96.6
Negative	19	9.4			

2.3. Data Collection Tools

2.3.1. Information form

It was prepared by the researcher to determine the demographic and academic characteristics of the students. The form included questions about gender, grade, desire to do postgraduate education, belief in the necessity of learning English, positive attitude towards learning English with mobile devices, finding English courses offered by distance education at the university useful, best English skills, English level and language test score (Table 1).

2.3.2. English mobile learning attitude scale (EMLAS)

The purpose of developing this scale is to determine the attitude towards mobile learning for English learners. Adaptation of the scale from the original (Liu, 2017) to Turkish was done by (Önal & Tanık Önal, 2019).

The scale consisted of a total of 21 items in a 5-point Likert type ranging from 1 to 5. There are four sub-dimensions in the scale, which were "Perceived Usefulness: The positive effect of mobile devices on individuals", "Affection: The feeling and anxiety felt when using mobile devices", "Perceived Control: Confidence in the independent control of mobile devices" and "Behavior: The way mobile devices are used" (Liu, 2017; Önal & Tanık Önal, 2019). These four sub-dimensions are based on the attitudes determined by Liu (2017) in the

study of Tsai et al. (2010). Getting a high score is evaluated as having a positive attitude towards mobile learning in English (Önal & Tanık Önal, 2019).

The Cronbach Alpha value of the scale developed by Liu (2017) was found to be 0.93. The Cronbach Alpha value of the English Mobile Learning Attitude Scale adapted to Turkish by Önal & Tanık Önal (2019) was determined as 0.90. In this study sample conducted with geography students, the Cronbach Alpha internal consistency coefficient of the scale was determined as 0.89 for perceived usefulness, 0.57 for affection, 0.79 for perceived control, 0.80 for behavior, and 0.89 for the whole scale.

2.4. Ethical Consent Process

The data were collected after obtaining official permission from the relevant university and verbal consent from the students forming the sample (Tokat Gaziosmanpaşa University, Social and Human Sciences Research Ethics Committee Decision Date 29.12.2022, Session and Decision No: 16.30)

2.5. Data Collection

Data was collected from students in the classroom environment. The data collection tools collected after the application were checked by the researcher and the missing and faulty ones were excluded from the sample. Students completed answering the data collection tools within 15-20 minutes.

2.6. Data Analysis

SPSS 22.0 program was used in data analysis. As suggested by Mayers (2013: 53), sample size is important in determining distribution limits. The cut-off point value can be taken as ±1.96 for samples smaller than 50, ±2.58 for samples between 51 and 100, and ±3.29 for samples of 100 and more.

It was observed that the scales showed normal distribution according to the specified values. Independent t-Test was used to compare the scores obtained from the sample, One-Way Analysis of Variance (ANOVA) was used in the analysis of unrelated more than two sample means, and Bonferroni Test, one of the multiple comparison tests, was used to see the source of the difference. Pearson Correlation Analysis was used to determine the relationships between the variables. In addition, Reliability Analysis was conducted to examine the reliability of the scales. For statistical analysis, the level of significance was accepted as $p<0.05$.

3. Findings

3.1. First Research Question: What is the level of mobile learning attitudes of geography department students towards learning English?

The mean scores of the participants from the EMLAS sub-dimensions are from high to low, respectively; 3.87 (SD=0.81) for “behavior”, 3.86 (SD=0.80) for “perceived control”, 3.71 (SD=0.94) for “affection”, 3.66 (SD= 0.73) for “perceived usefulness”, and 3.75 (SD=0.59) for “sum of the scale” (Table 2).

Table 2. *Scores obtained from the English mobile learning attitude scale (EMLAS)*

EMLAS Sub-dimensions	Mean	SD	Minimum - Maximum	Number of items
Perceived usefulness	3.66	0.73	1-5	9
Affection	3.71	0.94	1-5	3
Perceived control	3.86	0.80	1.25-5	4
Behavior	3.87	0.81	1-5	5
Scale total	3.75	0.59	1.48-5	21

3.2. Second Research Question: Which variables affect the mobile learning attitudes of geography department students towards learning English?

As can be seen in Table 3, no significant correlation was found between the participants' age and daily internet usage time, and the mean scores of the EMLAS sub-dimension and total score ($p>0.05$).

Table 3. *The relationship between age and daily internet usage time, and the mean scores of the EMLAS sub-dimension and total score*

Variables	Perceived usefulness	Affection	Perceived control	Behavior	Scale total
Age	r = 0.034 p = 0.633	r = 0.092 p = 0.194	r = 0.069 p = 0.331	r = 0.107 p = 0.128	r = 0.091 p = 0.196
Daily internet usage time	r = 0.027 p = 0.701	r = 0.032 p = 0.652	r = -0.036 p = 0.607	r = -0.063 p = 0.371	r = -0.008 p = 0.909

The mean scores of EMLAS were compared according to some demographic and academic variables, and the results of the analysis are shown in Table 4. Gender, grade, best English ability, and language test scores did not make a significant difference in the participants' EMLAS score means ($p>0.05$) (Table 4).

Desire to do postgraduate education created a significant difference in the mean scores of "perceived usefulness" ($p<0.01$, $F=4.570$) and EMLAS ($p<0.01$, $F=4.701$). According to the result of the Bonferroni test, this difference for the sum of "perceived usefulness" and the scale is due to undecided and unwilling participants ($p<0.01$ Bonferroni). Participants who did not want to do postgraduate education had significantly lower mean scores of 'perceived usefulness' and EMLAS (Table 4).

Participants who believed in the necessity of learning English had a significantly higher mean score of "perceived control" ($p<0.05$, $t=2.098$) and total EMLAS ($p<0.05$, $t=1.876$) compared to those who were undecided (Table 4).

According to the positive attitude towards learning English with mobile devices, the total mean scores of "perceived usefulness" ($p<0.01$, $F=17.176$), "perceived control" ($p<0.05$, $F=3.304$) and EMLAS differed significantly ($p<0.01$, $F=9.765$). In the Bonferroni test, it was determined that the participants who were more positive about learning English with mobile devices had higher mean scores than those who were indecisive and negative ($p<0.05$ Bonferroni) (Table 4).

The "perceived usefulness" ($p<0.01$, $F=6.114$) and the total score means of the scale differed significantly ($p<0.05$, $F=3.701$) according to learners' finding the English courses given by distance education at the university useful. In the Bonferroni test, the participants who found the distance education English courses at the university beneficial had a higher "perceived usefulness" mean score than the participants who were indecisive and who found it unhelpful ($p<0.01$ Bonferroni). For the sum of the scale, this difference was significant between participants who found it helpful and those who were undecided ($p<0.05$ Bonferroni) (Table 4).

According to the English language level of the participants, the mean score of "perceived control" differed significantly ($F=3.131$, $p<0.05$). In the Bonferroni test, those with an intermediate level of English language had a higher mean score of "perceived control" than those with a beginner and upper-intermediate/advanced level ($p<0.05$ Bonferroni) (Table 4).

Table 4. *Comparison of EMLAS sub-dimension and total score means according to demographic and academic variables*

Variables	EMLAS sub-dimension and total score				
Gender	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
Female	3.70 (0.65)	3.78 (0.87)	3.84 (0.78)	3.85 (0.76)	3.77 (0.51)
Male	3.63 (0.81)	3.63 (1.01)	3.88 (0.82)	3.88 (0.84)	3.73 (0.66)
t	0.731	1.103	-0.270	-0.278	0.479
(p)	(0.466)	(0.271)	(0.787)	(0.781)	(0.632)
Grade	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
Freshman	3.64 (0.66)	3.88 (0.87)	3.84 (0.71)	3.98 (0.53)	3.79 (0.48)
Sophomore	3.76 (0.69)	3.51 (0.90)	3.88 (0.73)	3.79 (0.80)	3.75 (0.58)
Junior	3.67 (0.72)	3.84 (0.94)	3.87 (0.97)	3.82 (0.98)	3.77 (0.65)
Senior	3.58 (0.84)	3.59 (1.03)	3.85 (0.78)	3.86 (0.82)	3.70 (0.63)
F	0.473	1.848	0.023	0.510	0.216
(p)	(0.701)	(0.140)	(0.995)	(0.676)	(0.885)
Desire to pursue graduate studies	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
Yes (1)	3.61 (0.72)	3.83 (0.89)	3.89 (0.79)	3.93 (0.86)	3.77 (0.58)
Undecided (2)	3.83 (0.66)	3.68 (0.99)	3.97 (0.78)	3.96 (0.68)	3.87 (0.54)
Not willing (3)	3.47 (0.78)	3.60 (0.92)	3.65 (0.81)	3.64 (0.86)	3.56 (0.64)
F	4.570	0.987	2.939	2.961	4.701
(p)	(0.011)	(0.375)	(0.055)	(0.054)	(0.010)
Bonferroni	2>3				2>3
Belief in the necessity to learn English	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
Believing	3.69 (0.74)	3.74 (0.94)	3.91 (0.79)	3.89 (0.82)	3.79 (0.60)
Undecided	3.50 (0.64)	3.52 (0.93)	3.58 (0.79)	3.72 (0.67)	3.57 (0.47)
t	1.373	1.178	2.098	1.029	1.876
(p)	(0.171)	(0.240)	(0.037)	(0.305)	(0.030)
Attitude to learning English with mobile devices	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
Positive (1)	3.87 (0.70)	3.75 (0.98)	3.98 (0.77)	3.95 (0.84)	3.89 (0.60)
Undecided (2)	3.51 (0.52)	3.70 (0.90)	3.69 (0.77)	3.74 (0.77)	3.63 (0.48)
Negative (3)	2.95 (0.96)	3.43 (0.86)	3.69 (0.94)	3.76 (0.57)	3.36 (0.58)
F	17.176	0.930	3.304	1.597	9.765
(p)	(0.000)	(0,396)	(0.039)	(0,205)	(0.000)
Bonferroni	1>2, 1>3		1>2, 1>3		1>2, 1>3

Perceptions of distance English education at the university	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
Useful (1)	3.98 (0.72)	3.65 (1.11)	4.01 (0.71)	3.99 (0.80)	3.94 (0.62)
Undecided (2)	3.55 (0.61)	3.70 (0.87)	3.75 (0.77)	3.71 (0.74)	3.65 (0.54)
Useless (3)	2.58 (0.80)	3.75 (0.90)	3.88 (0.86)	3.93 (0.84)	3.74 (0.60)
F	6.114	0.154	1.496	2.264	3.701
(p)	(0.003)	(0.858)	(0.226)	(0.107)	(0.026)
Bonferroni	1>2, 1>3				1>2
The best English language skills	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
Reading	3.64 (0.84)	3.74 (1.02)	3.89 (0.87)	3.90 (0.78)	3.76 (0.65)
Writing	3.62 (0.52)	3.76 (0.76)	3.71 (0.59)	3.67 (0.76)	3.67 (0.44)
Listening	3.65 (0.73)	3.73 (0.92)	3.86 (0.80)	3.88 (0.80)	3.76 (0.59)
Speaking	3.90 (0.60)	3.40 (0.98)	4.01 (0.82)	3.95 (0.94)	3.86 (0.58)
F	0.780	0.802	0.648	0.740	0.445
(p)	(0.506)	(0.494)	(0.585)	(0.530)	(0.721)
Level of English	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
Beginner (1)	3.60 (0.75)	3.63 (0.92)	3.72 (0.81)	3.84 (0.78)	3.69 (0.58)
Elementary (2)	3.69 (0.67)	3.66 (0.88)	3.95 (0.75)	3.85 (0.79)	3.78 (0.56)
Intermediate (3)	3.84 (0.62)	3.96 (1.11)	4.14 (0.69)	4.02 (0.76)	3.96 (0.51)
Upper intermediate / Advanced (4)	3.24 (1.44)	4.13 (1.06)	3.40 (1.28)	3.52 (1.50)	3.46 (1.23)
F	1.445	1.336	3.131	0.749	2.133
(p)	(0.231)	(0.264)	(0.027)	(0.524)	(0.097)
Bonferroni			3>1, 3>4		
Language Score	Perceived usefulness Mean (SD)	Affection Mean (SD)	Perceived control Mean (SD)	Behavior Mean (SD)	Scale total Mean (SD)
With Score	3.31 (1.17)	3.80 (1.24)	3.53 (1.24)	3.31 (1.22)	3.42 (1.13)
Without Score	3.68 (0.71)	3.70 (0.93)	3.87 (0.78)	3.88 (0.78)	3.77 (0.56)
t	-1.287	0.280	-1.105	-1.856	-1.504
(p)	(0.199)	(0.780)	(0.271)	(0.065)	(0.134)

4. Discussion

Positive attitudes towards mobile learning have been demonstrated in previous studies (Al-Emran et al., 2016; Özcan, 2022). Anthonysamy et al. (2020) emphasize the importance of self-regulation ability for sustainable lifelong learning as the center of learning in the 21st century and advocates that students become better lifelong learners as digital literates with good experiences. From this perspective, the most distinctive features of our era are the rapid change of time and conditions and the rapid production and consumption of information. Adapting to time and conditions and prioritizing learning with mobile technologies, especially by utilizing information and technology, is, therefore, a necessity. This is because

mobile technologies will have a much more important place in the lives of individuals in the future than it does now.

From this point of view, this research focused on MALL, which is defined as a sub-branch of mobile learning. The findings for the first research question show that the general attitude of the geography department students towards mobile learning English is positive. When attitudes are evaluated in terms of sub-dimensions, students had positive attitudes towards the way mobile devices were used, their feelings towards the independent control and use of mobile devices were positive, and they positively evaluated the effect of mobile devices on individuals. Fakeye (2010) emphasized the importance of attitude in learning English and emphasized that English teachers and administrators should work and create a favorable environment to develop this attitude. Based on these results, improving the attitude towards MALL, which emphasizes the technological side of language learning, can contribute positively to students' sensitivity to language learning with mobile devices.

Several studies express the advantages of mobile devices in language learning. Alrefaai (2019) stated that mobile phones were seen as positive in language learning among graduate students learning English as a foreign language and found that there was a significant difference in attitudes particularly among women. Azli et al. (2018) investigated the use of MALL in English as a second language learning at a private vocational college in Malaysia, and found positive perceptions, improved learning, communication and interaction with both participants' friends and lecturers using English. Similarly, Ta'amneh (2021) conducted a study on the use of smartphones in English learning among university students and found that mobile devices produced positive results in EFL teaching. Similarly, Annamalai et al. (2022), in a study they conducted with Malaysian undergraduate students, evaluated the effectiveness of smartphone applications in language learning and reported that these applications helped English learning in terms of skills (vocabulary, listening, speaking, reading, writing).

There are different studies state that MALL has many advantages in language learning. In their study, Okumuş Dağdeler & Demiröz (2022) stated that MALL is a learning style that contributes to autonomous and entertaining learning regardless of time and place. In the study conducted by Azli et al. (2018), it was reported that MALL offers opportunities for this by providing the advantage of participating in independent learning activities. The study by Hsu (2013) stated that MALL is a potential tool in EFL learning.

However, there are also studies emphasizing the features of MALL that need to be improved. For example, Burston (2014) argues in his study that the use of MALL in foreign language learning can be fully realized by enabling all pedagogical materials to work on these devices and eliminating compatibility problems. On the other hand, there are also research results that state that the awareness of students is not sufficient regarding the importance of mobile technologies in contributing to learning. Boudjelal (2022) states that participants in EFL classes have more cursory, communication and entertainment-oriented attitudes towards mobile learning devices. As Anthonysamy et al. (2020) stated, students can focus on developing their own metacognitive processes, resource management and motivational belief strategies to increase their digital literacy. In this way, students will both improve their individual learning desire in reaching their language learning goal and will have more opportunities to do so with mobile devices that are always at hand.

The findings of the second research question revealed that the mobile learning attitudes of the geography department students towards learning English did not differ according to some variables. Findings showed that there was no correlation between students' age and daily internet usage time and their mobile learning attitudes towards learning English. Güzel & Elkıran (2021) also stated that the daily time spent on the Internet did not change the mobile

learning attitudes of the students. Variables such as gender, grade, best English language skill (Reading-Writing-Listening-Speaking) and language score (YDS, YÖKDİL, IELTS, TOFEL etc.) did not change students' mobile learning attitudes towards learning English.

However, different results have been obtained in some studies in the literature. In the study conducted by Yudhiantara & Nasir (2017), it was reported that the participants had positive perceptions and attitudes towards mobile phones. At the same time, using e-books and audio and videos on phonology, using an offline dictionary for vocabulary learning were stated as activities done on mobile phones. Xu (2020) reported positive changes in the speaking and especially listening skills of the participants in business English. In a study conducted by Pham (2022) on the effectiveness of the Quizizz English learning application with the participation of university students, he stated that mobile-assisted language learning applications were beneficial. While many studies on Mobile English Language Learning (Yudhiantara & Nasir, 2017; Morgana & Shrestha, 2018; Xu, 2020; İner et al., 2022; Pham, 2022) stated the positive aspects of MALL, its validity needs to be more clearly stated through new studies that take different variables into account.

Regarding the second research question, there are also variables with significant differences. The desire to do postgraduate education creates a significant difference in the "perceived usefulness" and total mean scores of EMLAS, and this difference is due to undecided and unwilling participants. It has been determined that the participants who did not want to do postgraduate education had more negative attitudes towards the effect of mobile devices in the dimension of "perceived usefulness" (positive effect of mobile devices on individuals) and in their total mean score of EMLAS. In this study, the reason for examining the desire to do postgraduate education in learning English as a variable is that one of the prerequisites for doing postgraduate education in Turkey requires knowing a foreign language. As the findings show, those who were oriented towards their own career goals and did not want to pursue postgraduate education also approached mobile-assisted language learning more negatively.

When the results regarding the necessity of learning English were examined, the participants who believed in the necessity of learning English in the dimension of "perceived control" and the total mean scores of EMLAS had higher confidence in the independent control of mobile devices than those who were undecided. On the other hand, the variable of positive attitude towards learning English with mobile devices also included significant results. This was due to the mean scores of “perceived usefulness”, “perceived control” and EMLAS. The findings showed that participants who were positive about learning English with mobile devices had more positive attitudes than those who were indecisive and negative. This finding can indicate that the effect of mobile devices on individuals is more positive and individuals' confidence in the independent control of mobile devices is higher.

In the university where the research was conducted, English courses are compulsory in the first year, in both semesters, and are given via distance education. Most of the students complete these lessons by watching and listening via their mobile phones. In fact, most students experience learning English with mobile devices in their first year of university. The results showed that the participants who found the distance education English courses at the university useful had more positive mobile learning attitudes in terms of the "perceived usefulness" dimension and the total score of the EMLAS. Therefore, students who found the distance education English lessons useful also had a more positive view of the effect of mobile devices on learning English.

English language level affected the mobile learning attitudes of the participants towards learning English in the dimension of "perceived control". Those with intermediate level of English language had higher confidence in the independent control of mobile devices than those who were beginner and upper intermediate/advanced. This result can be interpreted from different perspectives. Firstly, beginners may think that it is not possible to learn English with mobile devices. Secondly, since the requirements of those with upper-intermediate/advanced English language levels were at a higher level, an assessment may have been made that this cannot be achieved with mobile devices. Since research findings evaluating the effects of these variables are not available in the literature, it can be said that there is a need for new studies on this subject.

5. Conclusion and Suggestions

When all the results are evaluated, the following implications can be reached. Geography department students had positive attitudes towards MALL. MALL's ability to improve writing skills in English or other foreign languages, to contribute to speaking skills through practices, to read or listen to any audio or visual material, to evaluate learning with exams or assessment and evaluation applications makes it advantageous. Previous studies showed that the effect of mobile learning in education and training would increase in the future, technological opportunities would be reflected more especially in mobile learning environments, and the use of mobile applications and platforms would become widespread. These research results can also provide useful data and clues to researchers, lecturers and interested parties about the adaptation to mobile learning devices.

Considering the necessity of learning a foreign language, particularly English, teaching plans and learning environments can be arranged in a way to encourage mobile learning. Therefore, better integration of mobile technology and applications into university education and training can be achieved and studies can be carried out to increase the awareness of university students.

In this study, data were collected from Turkey. Therefore, new studies can be designed by considering larger samples and similar variables from different countries and different universities. Studies with an experimental design on MALL and its applications and effective variables could significantly contribute to the literature.

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