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The Review of Published Articles on Mobile Learning Area in EBSCO Database

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Abstract

The distance learning is an instruction system which has various and independent instruction environment, customized lecture design, method and techniques. Distance learning has been improving from letter learning to mobile learning. That's why the aim of this research is to lead for new researchers on mobile learning area. Also we will find out new trends on mobile learning through this research. This research has limited with 2008-2013 years and it has been used EBSCO as a database. The sample of this study consist 67 articles. The criteria of this research is reported according groups of publication dates, countries, research areas, methods, education levels, researching methods, used mobile devices.

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1. Introduction

Rapid changes in information and communication technologies for teaching and learning activities have also contributed to the development of different methods and techniques. Without any doubt, the most affected by this development are the activities of the distance learning. Initially, the distribution of printed materials that affect the broad masses in distance learning has been transformed to an alternative training method with the help of computer and internet technology.

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The distance learning brings together different learners and teachers in different places and at different times with the help of technology. Therefore, it needs different learning environments and contents compared to the traditional education (Ozdamli, 2011). For this reason, the media used for the distance learning and content is more various. In recent year innovative developments in mobile devices taking place in the nature of distance education and this has led to the most appropriate media. When viewed from this perspective, tablet computers began to be used among the main tools in distance learning. Small and portable size of tablet computers allows the user to pursue their education everywhere (Kinash, Brand, Mathew & Kordyban, 2011; Yengin, et. all., 2012). These devices basically focused on information sharing and communication. They produced with different features of hardware and software. This helps users to use them for their different needs. If we were to rank the advantages of mobile learning (Seppala & Alamaki, 2003; Victor & et. all., 2013).

- a. Life-long learning
- b. Unwittingly learning
- c. Learning for immediate needs
- d. Independent learning without time and place problem
- e. Learning according to location and the conditions

As can be seen with the advantages of distance education overlap. With the development of technology and the widespread use of smart phones using mobile technologies are also become widespread in education. In general, the benefits of mobile learning can be summarized as more flexible, accessible and personalized learning activities (Dewitt & Siraj, 2010). The main purpose of mobile learning should be towards strengthening the overall learning strategy rather than transferring all computer-based materials to the mobile devices. Therefore, benefits will arise ongoing learning activities with learners with twining and can be expected to increase productivity.

According to many studies, the effect of success and the number of audience reached are increased with the spread of mobile training effectiveness. If we have to look at the work done in this area; Gromik, (2012) indicated that a case study has done in order to increase the confidence of students in speaking foreign language by recording videos. According to the results of this case study the number of the words learned by the students are increased in students' monologue speeches. Kim et al. (2012) has been examined and improved the game-based mobile learning model activity for children. The research has been made with 210 Indian children who were between the ages of 6-14. Study showed that game-based mobile learning technologies performed met cognition behavior in children by playing math games without any intervention or instruction by adults. Sha et al. (2012) in the research 67 students are divided into two groups. As a result of this research, it is indicated that students of all ages can learn by their own through the vibrant atmosphere of the mobile learning despite the difficulties in self-regulation skills in terms of applications and this plays an important role in the realization of met cognitive behavior.

Fernandez and others (2013) carried out a study in order to support special education needs of the students. This study was named as technological mobile learning with IOS devices. Study was included the stages of learning. They created a mobile platform connected to I Pads and IPods called Picca. By this way they created a media consist of investigations, crosswords, unification and separation which were very good for the education. A pre-experimental study was performed between 39 students with special educational needs in Spain based on pre and post tests on the use of a Picaa. The basic skills in the use of learning platform Picaa (language, mathematics, environmental awareness, autonomy and social) is improved and this has positive effects in improving learning skills for the children with special educational needs. Also, in many cases the content of operation is adapted according to their properties, and such people have had a chance to perform activities which were not accessible before. The study indicates that the types of activities are appropriate for the learning objectives of the students who are disabled with the repertoire. Finally, the use of electronic devices and multimedia content was determined to throw the interest in learning and attention.

Taleb ve Sohrabi (2012) carried out a study named "Learning while moving: Learning with the use of mobile technology for the university students". In this study, opinions of 289 university students about use of mobile technology in education are investigated. According to the results of the questioners done by researchers; calculators, texts and English dictionaries are the most common devices for the education. It is very important to have long battery life and have good network coverage for multi-purpose mobile technology in terms of use in education. In

addition to this, it is emerged that gender creates big differences in terms of using mobile devices. Moreover, it is appeared that using mobile applications in the academic field and courses by the university students are also very effective.

Web based education has been used in distance learning. In most of the previous studies, it is aimed to apply web-based education into mobile learning as well. Also, studies other purpose is to guide for developments in this way (Kucukarslan and et al., 2008).

As mentioned above, many studies have been done on mobile learning although it is a new method. Although most of these studies are in the field of design and development, many various samples of mobile applications are available. When looking at the literature many studies are found, but it is not possible to find these orientations have been carried out in the recent studies.

EBSCO selected as an electronic database and its content analysis was conducted in order to make it helpful for the people who desire to make some research about mobile learning. This database will be helpful for the researchers who desire to study on this field in terms of direction they should progress, choosing proper research method, disciplines, environments and other factors.

1.1. Aim

The overall aim of this study is to identify the search engines and determine the orientation of mobile learning studies published in the journals for the researchers who want to study in this field. An answer will be seeking for this question in order to achieve the objective above "what are the characteristics of studies in the field of mobile learning?" Furthermore, this study is intended to guide to all researchers studying in the field of mobile learning.

2. Method

This research is a kind of documentary screening study that aims to evaluate the content analysis in mobile learning.

Ebsco database was chosen for this study. As we mentioned before, mobile education is a very old concept. That is why we scanned without any limit of years. Key words are limited with "mobile learning, m-learning, mobile education and mobile learning" Moreover a variety of search methods are used while scanning. These helped to scan all the words as a whole sentence. Therefore, it is possible to get more specific and reliable results through this scanning method. While researchers were making the content analysis, criteria considered as follows:

- Year of Publication
- The Country of Research
- Research Area
- Method
- Level of Education
- Research Model
- Devices Used in Research

2.1. Data Analysis

Before researching the studies through search engines and electronic database, a database has been created. This database has been created by saving criteria through an SPSS program and using the analysis. Detailed documents obtained by analyzing all the data are recorded for each article. The authors may find useful.

3. Findings

3.1. Year of Publication

Mobile number of education-related work is presented in the following graph for each year.

Table 1 Number of Articles According To Publication Years

Study Year	f	%
2013	22	25,4
2012	19	35,8
2011	16	23,9
2010	5	7,5
2009	2	3,0
2008	3	4,5
Total	67	100,0

According to the results, most of the studies in the search engine regarding mobile learning carried out in 2013. It can be seen that search engines include studies about mobile learning each year. The studies have done in 2012 is very close to the number of studies in 2013. 22 studies were scanned while scanning studies up to January 2013. Accordingly, the mobile learning method still maintains its effectiveness. With the rapidly developing technology, we observe a proportional increase in the number of researches.

3.2. Studies According to the Countries

Which countries are holding most of the mobile learning activities, the United States is in the ranked 1 according to the response to question 1 as shown in Table 2.

Table 2. Number of the articles by country.

Countries	Number of Studies	Percentage
Turkey	10	14,9
USA	20	29,9
Malaysia	9	13,4
Mexico	2	3,0
China	7	10,4
Spain	1	1,5
Italy	2	3,0
Korea	4	6,0
Taiwan	3	4,5
Canada	4	6,0
Others	5	7,5
Total	67	100,0

As seen in the table at the beginning of the list, the U.S. ranks first in the field of mobile learning. Currently the highest level of technology in the world can be taken as the U.S as a country. Therefore, this result is quite normal to

come. This result is come up because the mobile learning is a new technology and the United States of America is one of the best states in the world in terms of technology. The United States is respectively followed by Turkey, Malaysia, China, Canada, Korea, Taiwan, Spain, Italy and Mexico. Except these states, it has been reached to one study from each country such as Australia, England, Japan, Nigeria.

3.3. *Research Topics of the Studies analyzed.*

As it is known to happen a lot of learning environments being created and many studies have been done with the applicability of this environment. Nowadays, rapid transition is seen towards digital environment from traditional classroom environment. Distance education is also changed and evolved rapidly with the development of today's technology. Distance education is now done by the mobile learning. In this way, individuals can perform their training through mobile devices as they wish. According to the results of the researched studies about the most common media shows that web based media and technological teaching methods in the class are the most preferred medium.

Table 3 research subjects of the studies analyzed.

Research Topics	Number of Studies	Percentage
Mobile Learning	35	52,2
Distance Learning	9	13,4
Web-Based Training	3	4,5
Web-Supported Training	4	6,0
Cloud Technology	4	6,0
Special Education	6	9,0
Lifelong Learning	6	9,0
Total	67	100,0

As seen in Table 3, 35 studies have been made regarding mobile learning environments. While scanning "Mobile Learning", "Mobile Teaching", "Mobile Learning" and "M-Learning" are used as criteria. Therefore, it is normal to get this result. Considered one of the most important findings of the study and other thing that need to focus on what are the other issues. It is very important to use mobile learning while researching about the studies of mobile learning and using scanning criteria despite different topics. This can be interpreted as the beginning of the increasingly widespread mobile learning in distance education. Life Long Learning, Cloud Technology and Special Education are other new topics are also takes interest as well as the mobile learning. Especially, many reliable studies are carried out on mobile learning and life-long learning which help individuals to learn without any dependency on time and place (Ozdamli, 2012). On the other hand, artificial cloud learning system is another system also used together with the mobile learning. Learners can reach information from every place through reaching materials has been uploaded in this cloud. (Gezgin, 2013; Ozdamli, 2012). As a result, it is possible to say that mobile devices can be used in many fields without worrying about place and time. Therefore, we can say that mobile devices will be able to enter more fields in the future.

3.4. *The Research Methods of The Investigated Studies*

The preferred research methods as a result of the analysis we have done in the studies are given in Table 3. As seen in the table, most of the studies are composed by the experimental studies.

Table 4: The research models of the studies.

Research Method	Number of Studies	Percentage
Experimental	59	88,1
Descriptive	4	6,0
Literature	4	6,0
Total	67	100,0

The preferred research methods as a result of the analysis we have done in the studies are given in Table 3. As seen in the table, most of the studies are composed by the experimental studies. Descriptive method has been used in 4 of the studies while entire 4 of them are done by screening literatures. As the amount of the experimental studies was too many, it is needed to use some devices for the mobile applications. It is necessary to develop an appropriate educational environment. in order to use these devices properly and effectively. Reliability of the effectiveness of this education will be more effective through experimental research method. It is needed to find out learners' opinion about environment and the influence of prepared environment to the success. Thus experimental studies are rather frequent. First of all, it is important to focus on how is the environment before using technology in distance learning. While doing this, the study of this issue should be examined. Therefore, it will be great benefit to undergo the earlier studies into literature and utilize in order to create more efficient new environments.

3.5. Education Stages of the Examined Studies

It is important to take into account characteristics of the target audience before choosing the methods, techniques, environment etc. for the education. Regulated environments may not be suitable for all education levels. The environment is more important in distance learning. Education stages of the studies are given in Table 5.

Table 5. Distribution of studies done according to the educational levels.

Level of Education	Number of Study	Percentage
Primary School	5	7,5
High School	11	16,4
Undergraduate	35	52,2
PHD	1	1,5
Life-Long Learning	15	22,4
Total	67	100,0

As seen in Table 5, the number of the studies is much higher at the universities. As mentioned previously, characteristics of the target audience should be considered before preparing the environment. Therefore, it is possible to see how university students are using mobile technologies and how good are they in this case. Therefore many studies on undergraduate students may have been carried. Besides, serving trainings recently provided great benefits in terms of life-long learning. Therefore, studies are in this field has gained momentum.

3.6. The Devices Used for Studies

Table 6. The devices used in the study.

Used Devices	Number of Study	Percentage
Notebook PC	10	14,9
Smart Phone	12	17,9
Mobile Tablet	18	26,9
Mobile Computer	2	3,0
Mobile Phone	7	10,4
Others	16	23,9
Total	67	100

When we looked at the devices have been used in the studies about mobile learning, it is observed that tablet computers are used in maximum level. The second most widely used device is the smart phones and third one is the laptop. In the vast majority of studies, smart phones, tablet computers and laptops have been used together. Mobile computers preferred least as they lost their popularity in a short time.

4. Results and Discussions

Many important results have been found out through this study which aims to determine the use of mobile technologies and their necessities. 67 studies were included in the research made between the boundaries of 2008-2013. There were many studies about mobile learning between 2008-2013 in the researched with search engine. It shows us that environment of mobile learning are being used and give rise to researches through continuous innovations.

It is normal to get the most results about mobile learning (35), when you look at the research topics. It is because "mobile learning", "mobile education" and "mobile teaching" are the most common used criteria. Besides, if we look the other results; Distance Education (9), Web-Based Training (3), Web Based Training (4), Cloud Technology (4), Special Education (6) and Lifelong Learning (6) comes in order.

According to these results, the most preferred research methods are almost in the same level. Experimental studies (59) are preferred because of the preparation of more environments and investigating the effectiveness of these environments by performing applications. Another reason in using scanning method (4) a lot is the rapid increase in the distance learning with the developing technology. On the other hand, utilizing the previous studies in determining the characteristics of the environment were also very helpful.

As we mentioned before, distance learning had a great change and development with the rapid development of technology. Therefore, it is needed to carry out studies in adequate technology literacy levels. It makes more sense to carry out studies in groups with sufficient level of readiness in order to avoid waste of time. Our study also supports these results.

4.1. Recommendations

It is needed to consider these recommendations in order to carry out more effective and efficient studies in this field. Experimental studies might be considered more useful. It might be more useful to apply mobile learning applications with face to face training. The results obtained from the studies should be supported with theoretical foundations in the literature. It is needed to keep in mind that the financial burden of mobile learning can be higher.

Researchers in Cyprus should be encouraged to carry out studies about Mobile learning.

Certain level of literacy is required in terms of technology for achieving mobile learning. Therefore, it is better to choose the groups from universities or higher in order to get more reliable results.

It is possible to carry out studies together by researchers from different countries. This will help to learn more about the situation in different countries and get the news about this subject in all the world. Institutions should provide facilities for the experimental studies both in Turkey and Cyprus.

Giving importance to content analysis while carrying out scientific studies in other fields and presenting scientific studies in this way will help other researchers who also aim to study in that field.

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