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## **Analysis of Documents Published in Scopus Database on Foreign Language Learning Through Mobile Learning: A Content Analysis**

**Análisis de documentos publicados en Scopus acerca de la enseñanza de lenguas con el uso de dispositivos móviles: un análisis de contenido**

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The purpose of this study is to determine the recent trends in foreign language learning through mobile learning. The study was conducted employing document analysis and related content analysis among the qualitative research methodology. Through the search conducted on Scopus database with the key words “mobile learning and foreign language learning”, the study is based on the analysis of the documents published between the years 2005 and 2017; their distribution took place by years, subject areas, document types, country/regions, and the affiliated universities of the authors. The varied findings revealed that the analysis of the studies published on Scopus database was important in terms of content for the significance of foreign language learning through mobile learning.

*Key words:* Content analysis, foreign language, foreign language teaching, mobile learning.

El objetivo de este estudio es identificar las tendencias recientes sobre la enseñanza de lenguas extranjeras con el uso de dispositivos móviles. Se trata de un análisis documental y de contenido dentro de la metodología de la investigación cualitativa. La búsqueda se realizó en la base de datos de Scopus con las palabras clave “enseñanza con dispositivos móviles” y “aprendizaje de lenguas extranjeras” en documentos publicados entre el 2005 y el 2017. El análisis de los documentos se hizo de acuerdo a su distribución por años, materias, tipo, país/región, y universidades de los autores. Los resultados revelan que este tipo de análisis tiene importancia para la enseñanza de lenguas extranjeras con el uso de dispositivos móviles.

*Palabras clave:* análisis de contenido, enseñanza con dispositivos móviles, enseñanza de lengua extranjera, lengua extranjera.

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## Introduction

The literature survey reveals that mobile learning has become a rapidly expanding research and application area in many educational institutions, particularly universities, as a result of the increasing technological capacity of mobile devices that attract new users and provide advanced opportunities along with the widespread use of wireless networks (Rahimi & Mouri, 2016; Uzunboylu, Hursen, Ozuturk, & Demirok, 2015). Extensive theoretical and conceptual frameworks have yet to be found that explain the relationships between the characteristics of rapid and, at times, groundbreaking technological developments and their role in the users' daily lives and educational potentials (Basöz & Can, 2016; Ozcan & Bicen, 2016; Pachler, Bachmair, & Cook, 2010; Saran & Seferoğlu, 2010). However, mobile learning is becoming increasingly widespread both in the scope of "formal" and "non-formal" education and has gained significance by attracting the interest and attention of practitioners and researchers in all areas of education. National and international conferences, new books, and periodicals which can be used for both in and out of class activities clearly demonstrate the importance attributed to mobile technologies in education (Madiyeva, Tausogorova, & Tayeva, 2016).

This learning model that provides the opportunity to learn "anytime, anywhere," for which the mobile technologies are used, also supports (a) individual learning in which the learners can determine their learning speed, (b) situated learning that includes a real context, and (c) cooperative learning in which the individuals work in groups and learn through helping each other (Baskan & Ozcan, 2011; Bicen & Uzunboylu, 2013; Cheon, Lee, Crooks, & Song, 2012; Çuhadar & Yücel, 2010; Naismith & Corlett, 2006; Traxler, Barcena, & García-Laborda, 2015).

Foreign language education is one of the educational fields in which technology plays a significant role. Mobile learning is also prominent in foreign language education (Bicen, Sadikoglu, & Sadikoglu, 2015; Kukulska-Hulme,

2006; Saran & Seferoğlu, 2010; Uzunboylu & Ozcinar, 2009) and even in language testing (García-Laborda, Giménez López, & Magal Royo, 2011; García-Laborda, Magal Royo, & Bakieva, 2016). Tablet computers, more functional "smartphones" with operating systems as Android and iOS, digital cameras, personal digital assistants (PDAs), MP3 players, and e-readers have become widespread, particularly among the younger population (Baglama, Yikmis, & Demirok, 2017; Sert & Boynueğri, 2017; Uzunboylu & Tugun, 2016). Along with this, foreign language education with mobile devices in technology-supported language education has become a field in which many research projects and applications are conducted (Godwin-Jones, 2011).

Learners can reach language learning materials more easily and quickly and get in touch with others anytime, anywhere in mobile supported language learning. By the very nature of digital technologies that are used, it becomes easier for the learners to participate in both collaborative and individual learning activities simultaneously and/or non-simultaneously (Akça, Demir & Yilmaz, 2015; Bajrami & Vela, 2017). This brings up a potential that contributes to the development of all language skills. A variety of language materials and learning tools with mobile technologies can provide opportunities for autonomous and situated learning, encourage social interaction, and strengthen motivation of students (Hu, 2017).

The literature review reveals studies that investigate the use of mobile telephone for educational purposes. For example, Ring (2001), in his study, provided access to distance learning materials in a business course both from computers via internet and from mobile phones using WAP (wireless application protocol) features and has investigated their effectiveness. The distance learning materials included only written content and interactive quizzes. Moreover, reminders and notifications were sent to the mobile phones of the participants by researchers. According to the questionnaire conducted following the application, all

of the participants expressed that the mobile technology added a positive value to the course. Ninety-three percent of the participants stated that mobile learning was useful when commuting while 50% expressed that they would have doubts about courses delivered through mobile technologies only. This finding points out that it is more favorable to use mobile phones to support traditional education environments rather than to use it alone. Jones and Marsden (2004) in their project "Text Worm" designed a system in which the students can respond via text messages to the multiple choice or open-ended questions that are reflected on the board through an overhead projector during the lesson. With computers that can receive text messages, the researchers evaluated the responses of students in real time and sent the results instantly to the students' mobile phones. The researchers have reported that the students found this application useful; however, they have been distracted while reading and answering the open ended questions from their mobile phone screens. The researchers have also pointed out that paying for sending text messages is one of the downsides of this application. Regan, Nash, and Licata (2000) have investigated the effectiveness of the SMS (text message) feature of mobile phones together with the web in teaching Spanish. The findings of this research revealed that the mobile phones have a positive impact on the language learning process. However, the participants complained regarding the small screens of the mobile phones. Thornton and Houser (2005) have sent the definitions of English words to students' mobile phones and investigated the effectiveness of this method and the reactions of students. Pre/post-test results have revealed that vocabulary courses delivered via SMS through mobile phones are effective in vocabulary building. Ninety-three percent of the students have reported positive views towards mobile learning. In another study, Levy and Kennedy (2005) sent the definitions of words and idioms via short messages at pre-designated intervals to the students of Italian.

At the end of the research the students were asked about the number and timing of the messages. The participants reported that the most convenient time to receive messages is between 9 am and 10 am and that the best number of messages is two in a day. Koren (1999) and Abdulhay (2015) emphasized that for effective English language learning and vocabulary acquisition in particular; in-class activities are not sufficient and that practices and applications should be carried out outside the classroom as well. Although this implication is stated by many educators, students do not make enough effort outside the classroom (e.g., Baturay, 2007; Kuimova, Uzunboylu, & Golousenko, 2017). The most important reason for this can be explained as the students' lack of internal motivation to start studying. However, the significance of motivation for effective learning is stated by all educators. In a study conducted by Korkut and Akkoyunlu (2008), information and computer literacy self-efficacy of foreign language teacher candidates were investigated. The findings of the research revealed that the teacher candidates could use computers and that the possession of a computer and the contribution of computer courses in the Education Faculty curricula were stated as the reasons for this. Moreover, when the computer literacy of the teacher candidates were evaluated in terms of sex variable, the findings of the research revealed that there was a significant difference in favor of male candidates. In addition, Ozdamli and Uzunboylu (2015) examined the mobile learning adequacy and perceptions of teachers in secondary schools and showed that teachers were motivated to use mobile learning in education; however, their adequacy levels for using mobile learning were not high enough.

The literature review reveals that there are many studies conducted on mobile learning. The purpose of this study is to analyze the research conducted on English as a Foreign Language (EFL) teaching through the method of mobile learning. Under the scope of this

general aim; the answers to the following sub-objective questions are sought:

- How are the EFL teaching and learning documents distributed over the years?
- How is the distribution of EFL teaching and learning according to subject areas?
- How is the distribution of EFL teaching and learning according to document type?
- How is the distribution of EFL teaching and learning according to country/regions?
- How is the distribution of EFL teaching and learning according to the affiliated universities of the authors?

### **The Purpose and Importance of the Study**

The purpose of this study is to systematically analyze the articles on Scopus database with selected key words based on themes through discussing other related basic concepts. Through the research the views regarding the use of mobile learning in foreign language learning will be evaluated to contribute to further studies in the related subject areas.

### **Limitations**

- This research is limited to the selected and reviewed documents in the Scopus database.
- The research is limited to the documents published from the years 2005 to 2017, accessed through Near East University Scopus database.
- The content analysis of the documents is limited to the five themes specified above.

### **Method**

The study was conducted employing document analysis and related content analysis among the qualitative research methodology. The document analysis was restricted to EFL teaching and learning. The basic process in content analysis is to compile similar data within the framework of specified concepts and themes and interpret them organized in a way that readers can

understand (Yildirim & Şimşek, 2006). Content analysis is a scientific frame that allows a systematic analysis of written, verbal, and other resources (Demirok, Baglama, & Besgul, 2015; Tavşancıl & Aslan, 2001). Cohen, Manion, and Morrison (2007) define content analysis as presenting the messages included in the existing documents briefly and succinctly.

### **Data Collection and Analysis**

Within the scope of the research on foreign language learning through the mobile learning method, a search was conducted primarily on Scopus database using the key words “mobile learning and foreign language learning” from the years 2005 to 2017 and yielded 32 documents of EFL teaching and learning. The documents retrieved through the Scopus database were analyzed, integrated by correlation with each other, and the data were analyzed through content analysis.

### **Findings**

#### **The Distribution of the Documents by Years**

At this stage of the research the distribution of the documents from the years 2005 to 2017 was examined. In this context, 32 studies were accessed through Scopus database, their distribution is presented in Table 1.

**Table 1.** Distribution of the Documents by Year

Year	Frequency	Percentage
2017	2	6.25
2016	4	12.5
2015	4	12.5
2014	4	12.5
2013	2	6.25
2012	3	9.3
2011	4	12.5
2010	3	9.3
2009	3	9.3

Year	Frequency	Percentage
2008	0	-
2007	1	3.1
2006	0	-
2005	2	6.25
<b>Total</b>	<b>32</b>	<b>100</b>

When the studies on EFL learning through mobile learning method were analyzed it was revealed that the majority of the studies were conducted between the years of 2011 and 2016. The first study was conducted in 2005; and it was revealed that in 2006 and 2008 there were no studies.

#### Distribution of the Documents by Subject Areas

When the studies on EFL teaching and learning through the mobile learning method were analyzed, it was revealed that most of the studies were conducted in the subject area of computer science (23) and social sciences (18). It was also revealed that the fewest number of studies was conducted in the subject area of psychology (see Table 2).

#### Distribution of the Documents by Document Types

When the studies on foreign language learning through the mobile learning method were analyzed it was revealed that the majority of the studies were published as conference papers (21). There was one book and one book chapter on foreign language learning through the mobile learning method (see Table 3).

#### Distribution of Documents by Author Countries

When the author countries of the studies on foreign language learning through the mobile learning method were analyzed it was revealed that the majority of the studies were conducted in China (5). There were two studies from Turkey (see Table 4).

**Table 2.** Distribution of the Documents by Subject Areas

Subject Area	<i>f</i>	%
Computer science	23	71.8
Social sciences	18	56.25
Arts and humanities	3	9.3
Business, management, and accounting	3	9.3
Mathematics	3	9.3
Engineering	2	6.25
Psychology	1	3.1
<b>Total</b>	<b>32</b>	<b>100</b>

**Table 3.** Distribution of the Documents by Document Types

Document Type	<i>f</i>	%
Conference paper	21	65.6
Article	8	25
Book	1	3.1
Book chapter	1	3.1
Conference review	1	3.1
<b>Total</b>	<b>32</b>	<b>100</b>

**Table 4.** Distribution of Documents by Author Countries

Country	<i>f</i>	%
China	5	15.6
Japan	4	12.5
Spain	4	12.5
Italy	3	9.3
Taiwan	3	9.3
Bulgaria	2	6.25
Turkey	2	6.25
Australia	1	3.1
Brazil	1	3.1
Canada	1	3.1
Iran	1	3.1
Malaysia	1	3.1
Portugal	1	3.1
Romania	1	3.1
Sweden	1	3.1
<b>Total</b>	<b>32</b>	<b>100</b>

### Distribution of Documents by the Authors' Affiliated Universities

When the affiliated universities of the authors of the studies on foreign language learning through the mobile learning method were analyzed, it was revealed that the author who published the most was affiliated with Tokushima University in Japan. This might be related to the fact that Japan is a developed and industrialized country and therefore using mobile devices for foreign language learning as a part of technological development is frequently studied (see Table 5).

**Table 5.** Distribution of Documents by the Authors' Affiliated Universities

Affiliation	<i>f</i>	%
Tokushima University	3	9.3
Kyushu University	3	9.3
Universidad de Cadiz	3	9.3
University of Rousse	2	6.25
Japan Science and Technology Agency	2	6.25
Bei-Zheng Junior High School	1	3.1
Chihlee University of Technology	1	3.1
Osel SRL	1	3.1
Universidad de Cordoba	1	3.1
Universiti Teknologi MARA	1	3.1
Bogazici University	1	3.1
Near East University	1	3.1
Bohai University	1	3.1
Jilin University	1	3.1
National Chung Cheng University	1	3.1
<b>Total</b>	<b>32</b>	<b>100</b>

### Conclusion and Discussion

In the research designed as content analysis that was initiated with the search conducted on Scopus database with the keywords "mobile learning and foreign language learning" and restricted to EFL teaching and learning, five themes were specified and a total of 32 documents were accessed and the documents analyzed with regard

to the specified themes. According to this, when the distribution of the documents by the years published from the years 2005 to 2017 was analyzed, the studies conducted on EFL teaching and learning through the mobile learning method increased in time while the highest number of studies, 12, were conducted between the years of 2011 and 2016. It is noticeable that there were no studies conducted in 2006 and 2008.

The studies conducted on EFL teaching and learning through the mobile learning method from the years 2005 to 2017 were analyzed and it was found that the highest number of studies was conducted in the subject area of computer science (23) and social sciences (18). The fewest number of studies was conducted in the subject area of psychology.

The studies conducted on EFL teaching and learning through the mobile learning method from the years 2005 to 2017 were analyzed and it was revealed that the majority of the studies were published as conference papers (21). There was one book and one book chapter on foreign language learning through the mobile learning method.

The countries of the authors of the studies on EFL teaching and learning through the mobile learning method from the years 2005 to 2017 were analyzed and it was revealed that the majority of the studies were conducted in China (5). This implies that both subjects were given significance in China. There were two studies from Turkey.

The sources of the studies published on EFL learning through the mobile learning method from the years 2005 to 2017 were analyzed it was revealed that mostly there were two publications. When the graphic was analyzed it was found that the highest number of studies was published in security and communication networks.

When the affiliated universities of the authors of the studies on foreign language learning through the mobile learning method from the years 2005 to 2017 were analyzed it was revealed that the author who published the most is from Tokushima University.



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