The Uses of Smartphones among EFL Learners and their Effects on Vocabulary Learning in Foreign Language English Preparatory School

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ABSTRACT

There have been so many developments and innovations in technology recently and technology use is a way of life for most of us. The smartphone is the most known one and it is used by many. This study attempts to find how EFL learners use smartphones and what effects smartphones might have on their learning English vocabulary.

This experimental study was conducted at Eastern Mediterranean University in English Preparatory School. A total of 60 learners from four intermediate level preparatory classes participated in this study. Survey design and experimental design was conducted. Both quantitative and qualitative research methods technique were used. A Background questionnaire was administered in order to decide on which smartphone application to use. Based on the results of this questionnaire, WhatsApp was employed. Pre-test was administered to both experimental and control group to measure participants' knowledge of the given words. As part of an experimental design, 30 experimental group of learners received WhatsApp messages via the smartphone containing a number of target words. On the other hand, another 30 control group learner received the same target words in a handout in a traditional way simultaneously. Each target word entry involved a definition, an example, word parts, visual illustration, associations, and collocations. A total of twenty-one words were presented to both the experimental and control group learners in a period of 10 days. A post-test was administered after all target words were sent out to measure the effect of the new application on vocabulary learning. In addition to the post-test, the participants were asked to complete a questionnaire on smartphone use. Lastly, the

researcher had a semi-structured interview with two participant volunteers in order to gather further information about the use of the smartphone (i.e. WhatsApp) in a vocabulary learning experiment. The results of the study show that the preparatory EFL learners use their smartphones for both personal purposes and educational purposes. Moreover, smartphones seem to promote the learners' English language learning and specifically vocabulary learning. Particularly, vocabulary learning via WhatsApp has a statistically significant effect on learners' vocabulary learning.

The findings of the study suggest that teachers should integrate smartphone applications such as WhatsApp into vocabulary. Also, this application seems to be useful in promoting autonomy in vocabulary learning because it gives the learners the chance to recycle vocabulary in their own time and it assist learners in developing their vocabulary learning skills whenever and wherever they wish.

Keywords: Vocabulary learning, target words, smartphones, applications, Mobile Assisted Language Learning, WhatsApp

ÖZ

Son zamanlarda, teknolojide birçok gelişmeler ve yenilikler vardır ve birçoğumuz için teknoloji kullanımı yaşam biçimidir. Akıllı telefonlar en çok bilinen yeniliklerdir ve günümüzde herkes tarafından kullanılır. Bu çalışma üniversite öğrencilerinin akıllı telefonları ne amaçla kullandığını ve İngilizce kelime öğrenimi üzerinde ne gibi etkileri olduğunu araştırır.

Bu çalışma Doğu Akdeniz Üniversitesi İngilizce Hazırlık Okulu'nda gerçekleştirilmiştir. Orta düzeyde dört farklı hazırlık sınıflarından 60 öğrenci bu çalışmada yer almıştır. Anket planlaması ve deneysel dizayn araştırma yapılmıştır. Nicel ve nitel araştırma yöntemleri kullanılmıştır. Bir akıllı telefon uygulamasına karar vermek için ön anket, bilinmeyen kelimeleri ortaya çıkarmak için ise ön test uygulanmıştır. Yapılan ön test sonuçlarına göre, WhatsApp kullanıldı. Verilen kelimelerde öğrencilerin bilgisini ölçmek için kontrol ve deneysel grubuna ön test uygulanmıştır. Bu deneyin bir parçası olarak, deneysel grubundaki 30 öğrenciye hedef kelimeleri içeren WhatsApp mesajları akıllı telefon aracılığı ile gönderildi. Bununla birlikte kontrol grubundaki 30 öğrenci eş zamanda aynı hedef kelimeleri basılı metin üzerinde geleneksel yolla aldı. Her hedef kelime maddesinde tanım, örnek, sözcük türleri, görsel illüstrasyon, eşdizimlilik ve çağrışım yapan kelimeler bulunmaktadır. Toplamının 21 olduğu kelimeler 10 günlük bir sürede kontrol grubu ve deneysel grubu öğrencilerine sunulmuştur. Tüm hedef kelimeler gönderildikten sonra yeni olan bu uygulamanın kelime üzerindeki etkisini ölçmek için art sınav uygulanmıştır. Art sınava ek olarak, katılımcılardan akıllı telefon kullanımı ile ilgili bir anket doldurmaları istendi. Son olarak araştırmacı, kelime öğrenme deneyinde

akıllı telefon (yani WhatsApp) kullanımı hakkında daha fazla bilgi amacıyla gönüllü iki katılımcıyla yarı-yapılandırılmış bir görüşme yapmıştır. Çalışmanın sonuçlarına göre İngilizce yabancı dil hazırlık öğrencileri akıllı telefonlarını hem kişisel hem de eğitim amaçlı kullanırlar. Ayrıca, akıllı telefonların öğrencilerde İngilizce dil öğrenimini ve özellikle kelime öğrenimini teşvik ettiği görülmektedir. Özellikle, WhatsApp yoluyla kelime öğrenme istatistiksel açıdan öğrencilerin kelime öğrenimi üzerinde anlamlı bir etkiye sahiptir.

Çalışmanın bulgularının önerilerine göre, öğretmenler akıllı telefon uygulamalarını (WhatsApp gibi) kelime öğrenimiyle entegre etmelidir. Ayrıca bu uygulamanın kelime öğretiminde özerkliğe teşvik ettiği için yararlı olduğu görülmektedir çünkü bu uygulama öğrencilere istedikleri zamanda kelimelere yeniden bakma fırsatı sağlamaktadır. Akıllı telefon onların kelime öğrenme becerilerini geliştirmede öğrencilerine nerede ve ne zaman isterlerse yardımcı olur.

Anahtar Kelimeler: Kelime öğrenimi, hedef kelimeler, akıllı telefon, uygulamalar, Mobil Yardımlı Dil Öğrenimi

To my beloved Family

who always gave me unconditional love and support

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LIST OF SYMBOLS OR LIST OF ABBREVIATIONS

AWL   Academic Word List

CD-ROM Compact Disc Read-Only Memory

DVD   Digital Versatile Disc

EFL   English as a Foreign Language

ELMO   English Language Mobile

EMI   English as a Medium Instruction

EPS   English Preparatory School

ESL   English as a Second Language

FLEPS   Foreign Languages and English Preparatory School

IBM   International Business Machine

IELTS   The International English Language Testing System

LCCI   London Chamber of Commerce and Industry

LCD   Liquid-Crystal Display

MALL   Mobile Assisted Language Learning

MELOs   Mobile English Learning Outcomes

MLD   Modern Language Division

MMS   Multimedia Messaging Services

MyEVA	My English Vocabulary Assistant
OHP	Overhead Projector
PDA	Personal Digital Assessment
SMS	Short Message Services
TELC	The European Language Certificate
TOEFL	Test of English as a Foreign Language
TOLES	Test of Legal English Skills
VoIM	Voiced Over Instant Messaging

Chapter 1

INTRODUCTION

This chapter contains six parts: background of the study, statement of the problem, aim of the study, research questions, significance of the study and definition of key concepts and terms.

1.1 Background of the Study

Nowadays, many technological developments come into our lives. One of the latest technological tools is the smartphone. The smartphone, which is becoming more and more popular every day, has become an indispensable part of the lives of especially the new generation. Smartphones, in addition to mobile communication, offer to their users various facilities such as viber, WhatsApp, Instagram, tango and so on. These facilities add to smartphone popularity and make them attractive and preferable to many people.

My observation is that smartphones are commonly used by language learners in the intent of both education and personal reasons. Various scholars and educators investigated the potential of using the smartphone to access the Internet in order to develop English as a Foreign Language (EFL) and English as a second Language (ESL), listening skills (Nah, White and Sussex, 2008), the occasions in order to improve second language pronunciation through MALL (Saran, Seferoglu and Cagiltay, 2009), and also impact of MALL on vocabulary learning (Cavus and Ibrahim, 2009; Lu, 2008; Stockwell, 2007; Thornton and Houser, 2005). Students

can also easily keep their smartphones or mobile phones in their pockets as a mini computer, so whenever they want they can benefit from their applications (Tabatabaei and Goojani, 2012; Prensky, 2005).

Both teaching and learning may be fostered through technological innovations. Technology has the potential to influence new methods and approaches to the English language learning and teaching (Thornton and Houser, 2005; Saltourides, 2009). Thus, smartphones may support English language learning and provide a rich learning environment for our learners (Tan and Liu, 2004; Kukulska-Hulme and Shield; 2008; Stockwell, 2010; Cheong, Cheong and Bruno, 2012; Hsu and Ching, 2012). They encourage mobile-based learning from which students can benefit wherever they wish (Cochrane and Bateman, 2010; Sandberg, Maris and Geus 2011). According to an investigation by Chen, Hsieh and Kinshuk (2008), learners can improve their vocabulary through mobile phones.

1.2 Statement of the Problem

Despite the widespread use of smartphones in daily life, little is known about their possible exploitations in education. Specifically there have been a limited number of studies in English language learning (Thornton and Houser, 2005; Saran, Seferoglu and Cagiltay 2009; Stockwel, 2010; Barrs, 2011). Because the effects of such mobile technology are yet not clear, teachers would not usually allow their learners to use smartphones in class. In fact, they would ask learners to turn them off in the classroom. But mobile phones or smartphones have significant potential to provide additional opportunities for learning English both inside and outside of the classroom. In her article about mobile learning, Hockly (2012) explores how educators can fuse versatile learning into their instructing. She asserts that there are

some dialect learning exercises that numerous learners are doing like utilizing versatile cheat sheets for vocabulary, watching video podcasts or listening to sound podcasts, and utilizing word references on mobile phones. She adds that as instructors it is dependent upon us to inform our learners about the versatile alternatives and applications which are progressively accessible to them. In addition, she argues that we have to remember that mobile phones are valuable for utilization of language (cheat sheets, podcasts, and so forth), yet they are likewise useful instruments for recording (e.g. sound or video, taking photographs for composing undertakings, and so forth). Considering the versatile nature of smartphones, more research should be conducted to find out the potential uses of smartphones in learning English.

1.3 Aim of the Study

Chu (2011) states that the use of smartphones should be considered as a tool for learning L2 by experts and instructors because it will be a much-used device in the near future. Over the past years, mobile learning has been becoming widespread in foreign language teaching and learning in the world.

This current study aims to find out how English preparatory learners use smartphones, whether they use them for learning English, and what effects smartphones might have on learning English vocabulary.

1.4 Research Questions

The following questions were addressed in this study:

1. How do the intermediate learners make use of smartphones inside and outside class?

2. Do the EFL learners use smartphones for learning English?

3. Do the Preparatory learners use smartphones for learning vocabulary in English?

4. Does the use of smartphones have an effect on the preparatory learners' vocabulary learning?

1.5 Significance of Study

The present study can be regarded as a significant study in that, firstly, using smartphone is a technique which teachers do not integrate with English language teaching, so the implication of this study indicated that teachers can apply it without hesitation. In addition, it is important to supply a technological device which is commonly used among learners who often use WhatsApp in their daily lives, which means they have an opportunity to revise vocabulary whenever they need. Finally, this study can encourage further studies on using applications in learning vocabulary in English as a second language.

1.6 Language Description of Key Concepts

1.6.1 MALL

MALL refers to Mobile Assisted Language Learning, which is a branch of mobile learning. According to Miangah and Nezarat (2012) MALL is recognized as the capability of learning continuum to become spontaneous, ubiquitous, respectful and autonomous. Learning via mobile phones offers various leaning environments and opportunities to learn because it has different types of characteristics like connectivity, portability, usability. Kukulska - Hulme (2009) defined Mobile leaning as a technological device which is continuously and rapidly improving. In these days, mobile learning is preferred by new generations because of some applications and

professional educators and technologists formally designed activities with the use of technology. These applications or activities include books, audios, videos, recordings, and dictionary. MALL has a good potential to increase learners' motivation and affect their learning positively. In this study MALL is defined as a technological device which is continuously and rapidly improving as Kukulska-Hulme (2009) explained.

1.6.2 Smartphones

The smartphone is a kind of mobile phone which is rapidly changing and improving continuously. The first smartphone named *Simon* was developed by International Business Machines (IBM) in 1992 (Smartphone https://en.wikipedia.org/wiki/Smartphone. Smartphones include some applications such as web browsing, e-mail calendar, a contact organizer, camera and radio and so on. Smartphones were used in this study to collect data, they have different operating systems such as Android which is the most commonly used operating system founded in October 2003 by Andy Rubin (Wikipedia, https://en.wikipedia.org/wiki/Android_(operating_system)), iOS which was developed by Apple Inc. is also the most preferred one (Wikipedia, https://en.wikipedia.org/wiki/Apple_Inc.). Through smartphones people can obtain many useful and practical applications including music, books, movies and TV shows, news and magazines, games, viber, skype, gmail, WhatsApp, facebook, photoshop, instagram, dropbox, dictionary and so on. These features of mobile technology are becoming more and more popular in different parts of life. In the present study the term smartphone involves mobile phone has more developed functions.

Chapter 2

REVIEW OF LITERATURE

The following chapter presents the literature review regarding technology in English language teaching, and gives information about smartphones in English language learning and teaching. Moreover, it focusses on vocabulary learning in general; and lastly, it discusses vocabulary learning via smartphones.

2.1 Technology in English Language Teaching

Technology has been utilized for a long time as part of second language education. It is important to employ technological tools in making learning more productive, beneficial and effective in our second language classes. In light of the fact that interaction in a worldwide setting turns into a standard, language learning is much more essential than it was in the past. Second language instructors should broad their horizons by using technology in their classes and they ought to be mindful of the necessities to utilize technology in second language classes. Phil and Shyamlee (2012) indicated the principle necessities as follows:

- Cultivate students' interest in study
- Promote students' communication capacity
- Widen students' knowledge to gain an insightful understanding to western culture
- Improve interaction between teacher and student
- Crate a context for language teaching
- Provide flexibility to course content. (p.151)

Even if the teachers or instructors know these necessities, they cannot use technology in their classes for some reasons. A study conducted by Wicklein (1993) provided support for this statement. The results of the study show that technology is used rarely in second language classes even if both students and teachers think positively of using technology while learning English. The main reasons seem to be financial concerns, lack of sufficient knowledge and inadequate equipment.

In addition to these, technological tools are also used to instruct the specific language skills such as speaking, listening, reading, or writing. Speaking is the most important skill among students as mentioned in Aykaç's research (2005), but they generally have problems with fluent speech. For this reason, computer-mediated communication was used to help develop speaking skills. Her results showed that both teachers and students thought positively of using voice/text chat with native speakers all around the world.

The effect of using technology on learning English has been investigated by several researchers. It has a role in assisting the development of language learning, teaching and learners' knowledge. Crystal (2001) predicates that all learners have chances to learn second language offered by technology in different ways instead of traditional ones. Technology plays an important role in higher education (Wernet, Olliges and Delicath, 2000). McCombs (2000) argues that "applications and assessments of educational technology must consider student perceptions that their personal and interpersonal needs are being met" (p.7). It can be possible for learners to obtain more information through technology and they can learn in their own way, so learners can become autonomous and it also improves learners' self-confidence. In

addition, learners have a chance to study language skills or vocabulary and grammar by using technology.

Technology offers a great variety of tools for education such as computer, tape recorder, computer dictionary, mobile dictionary, CD-ROM, DVD, scanner, power point, LCD projector, OHP (Overhead Projector), smart board, mobile phones, smartphones, educational channel and online journals. Recently, the smartphone has been the most common one; it can be used for various purposes in language learning and teaching.

2.2 Smartphones / Mobile Phones in English Language Teaching / Learning

Smartphones seem to influence learning and teaching the English language, and therefore they should be integrated with the improved *Mobile-Assisted Language Learning (MALL)* (Chu, 2008; Lu, 2008; Thornton and Houser, 2005). They can be classified as complementary educational tools to improve learners' skills in a various ways (Kukulska and Hulme and Shield 2008; Saran, Seferoğlu and Çağıltay, 2009; Viberg and Grönlund, 2012). The smartphone has great potential to support English learning (Cheong, Cheong and Bruno, 2012; Hsu and Ching, 2012; Kukulska-Hulme and Shield 2008; Tan and Liu, 2004). Smartphones are also appropriate for some learners who are accustomed to learning with real-life tasks because mobile-based learning or smartphone-based learning may provide real-life (i.e. authentic) tasks for learners (Bromley, 2012; Cochrane and Bateman, 2010; Sandberg and Maris, 2011).

A study was directed by Thornton and Houser (2005) to investigate how often Japanese college understudies utilize their mobile phones for educational purposes

and to figure out how their responses to the mobile applications which are designed for language education purposes. Analysts asserted that even mobile phones are so well known among university students; they mostly use them for their educational purposes with the help of their web applications on their phones. In addition to this, students give preference to mobile e-mail and mobile voice calls to PC e-mail for pedagogical purposes. It was also indicated that university students in Japan feel at ease about using mobile phones on small screen, but they don't assume that small screen is a negative feature for education.

Kim et al. (2013) investigated how mobile technology provides opportunities for learning and how students use their phones to create specialized learning when they are not in the classroom. ICT can be a substantial tool for personalized learning experience. According to this survey learners' perceptions towards mobile devices use were positive in general, but 85% percent of students preferred to use computer. 48% preferred smartphones and 28% mobile device; these preferences depend on the relatedness between the activities and the technological devices. Although mobile technologies have challenges, they help students to improve their interaction and learning.

In the Cochrane and Bateman's article (2010), it was expressed that pedagogical affordances of versatile Web 2.0 instruments were among the most noteworthy in acceptance to utilize them. They made a rubric for listing the affordances of different Smartphones for mobile Web 2.0. affordances such as screen size, application availability, 3G, image capture, video capture, cost, text entry, GPS, touch screen, easiness to user interface, video out, portability –size and weight are the reasons for students to decide how effectively they can use the mobile device in order to use for

their educational purposes. The researcher stated that, particular affordances are important for some projects held in classes whereas there is no need to have those features for other projects. As an illustration, the researchers incorporated in student's feelings about using mobile phone for his education. On account of the fact that the student does not like writing, he prefers using mobile technology to record himself as a video when he has ideas, thoughts, and feelings. Based on this situation, mobile technology has an impact on process of learning second language.

Schachter (2009) addressed in his article that depending on a survey almost 70 percent of schools around the country forbid to use mobile phones during the course hours. However some districts and administrators are realizing the capability of mobile phones. He expressed that a fifth grade teacher, Matt Cook, said that he integrated the phones into classroom settings for educational purposes that they do in the classroom. He claimed that lessons are traditionally done with a notebook and pencil; however they were able to do them in various ways, and with more depth and complexity through smartphones applications. There were less behavioral issues and they were observed to be more dependent, when the students used many different applications of smartphones.

When the university and high school students are outside of the school, the reason of using mobile phones among them sometimes may be different. It may be used in a various purposes such as educational, social and etc. Once in a while in rural areas some students may not be able to attend their classes, so they miss the class and important subjects of the topics (Gopalan, Karavanis, Payne and Sloman, 2011). For this reason, a study was conducted in rural areas to measure the influence of using smartphone applications on makıng up for missed classes (Gopalan, et al., 2011).

They focused on 2 projects; one is Virtual Learning Environments for Mobiles, in which students can comprise their missing classes by downloading their files, so they can follow the courses while they are at home, the other one is Smartphone for a Voice-Based Framework, in which students can record their voices and ask their questions by interacting with their friends and teachers. The results of these projects indicated that in an effective way students are pleased about both applications which lead researchers conduct future studies in the same direction with improvements.

Godwin-Jones (2011) explored the language learning applications in their study, the tools they manage, and how to develop them. He stated that recently almost all smartphones are equipped with features like responsive touch screen and Web navigation. Many phones are capable of not only calling someone in an easy way but also video capture or other necessary applications like dictionary, viber, WhatsApp, dropbox, hangouts. Each application has different functions according to the features. Moreover most of the new generation of smartphone users need the Internet. In these days smartphones have faster connectivity, therefore they can easily achieve the information that they want.

On the other hand, the use of technology for learning new language also causes some disadvantages. In accordance with research taken by Parker, Lenhart, and Moore (2011) with college presidents, having cell phones, smartphone, tablet computers, and laptops causes plagiarism problem in the classroom. The rates of plagiarism have been increasing for ten years because of the development of technology. This point can be assumed as one of the negative view point of mobile learning in education. Researchers also indicated that the students who have online learning experience have positive perception towards it whereas the graduated students who did not have

online learning experience assume that having in-person classes is better than the online learning in their education.

In these days, teachers use technology for education as much as possible. The functions of "smart mobile devices and their growing penetration rate among the student cohort" have increased, suggesting that taking advantage of mobile devices is feasible "to promote higher-order thinking skills" (Cheong, Bruno, and Cheong, 2012, p.97). In fact, they stated that the teachers are trying to catch up with their students and if they want to engage them, they should use up-to-date applications that motivate and attract their students' attention. According to Kukulska-Hulme (2001), technology has been proven to increase students' participation (as cited in Cheong, Bruno, and Cheong, 2012). In their article Cheong, Bruno, and Cheong (2012) mentioned a collaborative mobile apps system called myVote which was designed to support social interaction and refer various thinking level in order to promote higher-order thinking skills. Technologies included in this system are the mobile devices, the mobile app and the servers and they are used by the academics and the students. Researchers asserted that in order to encourage higher-order thinking skills their commitment is a system for utilizing mobile applications and approving learning theories within a lecture setting.

Hockly (2012) asked how teachers can integrate mobile learning into their teaching, the advantage of mobile phone is being a portable device according to Hockly (2012). She claimed that there were many learners who use mobile language learning activities or applications outside of the classroom. Mobile devices include useful activities like using mobile flashcards for vocabulary, watching video podcasts or listening to audio podcasts, and using dictionaries on phones and she continued by

saying that as teachers it's up to us to let our students know about the mobile options and apps which are increasingly available to them. She also stated that as teachers we need to be aware of the usefulness of mobile phones for consumption of language (flashcards, podcasts, etc.), they are also known as excellent tools in order to produce language (by recording audio or video, taking photos for writing tasks, etc.). As a conclusion she explained that context has a significant factor for what you do and how you do and this context includes institutional constraints, access to devices, and even the learner attitudes.

Nowadays, mobile applications have been a key concern for lecturers or teachers in motivation students to tach and learn (Moses, 2008). He states that mobile learners indicate intellectual curiosity; learning seems more enjoyable for them and continues seeking knowledge. In addition to this, he stated that some motivational models were being carried out by researchers to make mobile learning environment more effective. Shin's mobile learning model was the most appropriate one for mobile learning according to his opinion. "Multimedia message (attention), Web search (relevance), Peer to peer discussion (relevance and confidence), Digital story telling (confidence), and simulated gaming (satisfaction)" (p.27) were involved in Shin's mobile learning model.

The purpose of the study of Yang, Gamble and Tang (2011) was to empirically test the effectiveness of voice over instant messaging (VoIM) in order to motivate learner and improve their speaking. In their study, researchers examined the diversified online discussions. According to the results of this study experimental support for the significance of structured discussions and simplification of ETAs for enhancing both proficiency of English speaking and motivation were supplied. The finding of

the study revealed the role of simplifications in VoIM discussions, and suggested prompt feedback, being a role and encouragement for promoting oral proficiency in second language classes.

In conclusion, all these studies illustrated that most of the students' perceptions towards the use of ICT to learn English were favorable and they were highly motivated. They thought that the experience of smartphone using in ELT (English Language Teaching) is a significant opportunity for their improvement. Teachers can conduct many useful activities and applications which are effective to engage students in their learning. Moreover mobile learning applications promote learners' autonomy recovered help them to manage their own learning. However, depending on previous studies, there are also negative effects of using mobile phones or smartphones in learning English. The disadvantage is that the teacher cannot observe what learners are doing with their smartphones every time. Some students complain about not seeing in detail what they have in smartphones or mobile phones because of the size of screen. The increased rate of plagiarism is the frequently encountered problem on the past of smartphone using in the classroom. Laziness can be indicated as another problem by learners in learning new mobile learning applications. These studies and results promote this study and the further studies for implementation step.

2.3 Vocabulary Learning via Smartphones

2.3.1 Vocabulary Learning

Vocabulary is an indispensable part of new language learning. Great number of words should have been known by second or foreign language learners in order to create meaningful sentences. However, learning vocabulary is one of the most

difficult issues for students while learning second/foreign languages (Nation, 2001). We can communicate by using words and achieve impressive depth of communication. Harmer (1991) makes an anatomical analogy and describes vocabulary as a vital organ and the flesh, if language structure is hypothesized as a skeleton of language. Similarly, Ghazal (2007) states that vocabulary is the building blocks of a language. Competences of perfect pronunciation, proper grammatical rules or proper order do not have any potential for representing meaning, but vocabulary is basis (Harmer, 1991; Lightbown and Spada, 2006). Wilkins (1972) laid emphasis on the vocabulary by stating "without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (p.111). If we have grammatical structures in a paragraph we cannot understand general meaning and context, but if a paragraph includes vocabulary without grammar we can understand the context, what it explains. Nation (2001) gives a description of vocabulary knowledge by applying the terms of *receptive* and *productive* and convers all features of knowing word. According to Nation (2001) "Receptive carries the idea that we receive language input from others through listening or reading and try to comprehend it. Productive carries the idea that we produce language forms by speaking and writing to convey messages to others" (p.37).

2.3.2 Knowing a Word

To know a word does not mean to just know its definition or meaning correctly. Knowing vocabulary should be based on being aware of how to use, what to use, when to use and where to use the words (Harmer, 1991; Nation, 2001; Schmitt et al. 2001). Learners are also expected to be able to use vocabulary appropriately, therefore knowing a word involves much more than knowing just its meaning. Nation (2001) mentioned nine aspects of what is involved in knowing a word:

"spoken form, written form, word parts, connecting form and meaning concept and referents, associations, grammatical functions, collocations, constraints on use, and item knowledge, system knowledge" (p. 40). Harmer (1991) demonstrated that students need to know meaning, word use, word formation and word grammar in order to cognize the word completely.

When literature about the uses of smartphones and their effects on vocabulary learning was reviewed, the limited number of studies had been explored, but it has been increasing more and more every day because of being recent technological tools. Mobile technologies have an important role among people especially young people according to Saran and Seferoglu (2010). This part included the vast majority of studies related to the use of smartphones and effects on vocabulary learning in the light of the research questions. The studies below represent the studies of 'Vocabulary Learning via Smartphones'.

Learning new words in foreign languages has many challenges. According to Tabatabaei and Goojani (2012) learners need various ways to assist learners in becoming autonomous learner. They explored the effectiveness of text-messages on vocabulary learning through learners' mobile phone. Control group and experimental group were included by looking at their proficiency exam results. In this study three different instruments which were proficiency tests, achievement tests and two attitudinal questionnaires including 20 items were applied in order to collect data. When the results of this study is investigated, both learners and English language teachers have positive attitudes towards the use of mobile applications, the use of

short message which motivates students has effects on learning new vocabulary for EFL learners.

Alhabahba et al. (2014) and Chen (2014) carried out studies which were conducted in 2014 about learning English vocabulary via smartphones and mobile phones with their affects. In their study they came up with the same conclusion although they applied diversified methods to unequal number of the participants. Alhabahba et al. (2014) applied qualitative and quantitative method to 273 students in order to find out vocabulary development via smartphones, whereas Chen (2014) focused on quantitative data including translation, fill in the blanks and multiple choice with two English classes. In this study mobile phone was used to see the effects. For both study there is no significant effect of using smartphones and mobile phones while learning vocabulary but learners had positive attitudes towards employing smartphones for foreign vocabulary acquisition. It can be used as a supplementary material to learn better.

Yang et al. (2013) made a discussion in their studies about the usage of vocabulary learning strategies for MyEVA mobile language learning. In their study they used MyEVA that was developed as a vocabulary learning system for the study of Liu and Yung (2012). Samples were applied presetting test, training and questionnaire to collect data, and they analyzed data by applying T-test. Learners' vocabulary acquisition was enhanced by the proposed system which is called MyEVA. MyEVA provided learners four different learning styles (kinesthetic, tactile, visual and auditory). However Alhabahba et al. (2014) achieved different conclusion, context of the study or the year may be reason. They investigated students' behavioral factors affecting Saudi students' attitudes towards employing Smartphones for foreign

vocabulary acquisition. They collected data quantitatively via questionnaire and analyzed data with smart software package. As a result there is no significant effect of using smartphones while learning vocabulary but learners had positive attitudes towards employing smartphones for foreign vocabulary acquisition.

According to the study of Alami and Labi (2012) learning a new word is an indivisible part of learning another language in order to understand and use better. Long – term and short-term retention of a word difference was explored via SMS (mobile phone) and using dictionary. Participants are not equal in both experimental group and control group, but he mentioned this situation as a limitation. Academic word list and vocabulary test were used as an instrument. In this study the improvement of these groups' academic word knowledge was examined during sixteen weeks. As a total 320 words were sent to groups of students. At the end of the experiment learners were administered immediately with vocabulary post-test, and then in order to see the long-term effect of mobile vocabulary learning they took delayed post-test after 4 weeks. As a result of this study there wasn't significant discrimination between experimental and control groups, however in the long term vocabulary learning through SMS(Short message services) assisted learners to remember more vocabulary.

In 2011 three studies about learning vocabulary through smartphones were conducted by Zhang, Song, Burston ; Khazaie , Ketabi and Hu. They examined how the mobile phones were perceived as a learning tool effectively while learning English language and how were they integrated. The numbers of the participants were totally different in each study. The first one had 78 students and while Hu (2011) used 24 part time adult learners, Khazaie and Ketabi (2011) worked with 158

18

L2 learners. The number of participant may affect the results In order to collect data, mix method was used by Zhang, Song, Burston (2011) and quantitative methods (questionnaire and tests) were applied by another researchers. Although they had different data collection procedure and participants number, some of the results that they found were similar. Smartphones has positive impact on vocabulary learning and they agreed that they can be used anywhere and anytime. Smartphones had more colorful visual aids than the traditional ones, so it can be used as supplementary materials for both children and adult learners.

Chu (2011) investigated using smartphones vocabulary applications and the effect of the features of these applications. The data was collected with questionnaire from 32 college students who had smartphones and the data was analyzed by using descriptive statistics. The students had different levels of English because of the variation of their majors. 16 of the students majored in the liberal arts, 16 of them majored in the natural science. Students were divided in to two groups and half of the participants just used Apple applications and the others applied only applications. The obtained results were; a) most of the students chosen vocabulary and dictionary applications because of the small screen of smartphones that was easy to study on vocabulary. b) Learners did not utilize the smartphones everywhere, they usually use the application while commuting, c) Because of the functionality that had significant effects on learners' pleasantness, and they keep vocabulary learning applications (smartphones) on.

Saran and Seferoğlu (2010) conducted a study related to the integration between English language learning and mobile technologies. The aim of this study is to enhance foreign language education with learners' mobile interests and their

potential by exploring the effectiveness of mobile-based learning. This study was accomplished at English Preparatory School of university to 103 elementary and pre-intermediate students. In this study mobile phones are used as instructional supplementary materials so it is applied outside of the classroom. Messages will be sent with the words' definition, sentences as examples, related visual representations, information on word formation and pronunciation of these words. Students thought that pictures of a word helped them to remember the words' meanings. Vocabulary learning is effective by using mobile technology which has great potential to provide extra practices and students are motivated with MMS and SMS.

Subsequently, in another pertinent study Stockwell (2010) collected data from 175 pre-intermediate learner to examine the effects of mobile phone by using both mobile phone and desktop computer to accomplish vocabulary activities. Stockwell conducted this study more than three year period, each year he studied with seven different classes in 2007: three classes (80), in 2008 two classes (50) in 2009 two classes (45). Some vocabulary activities related to textbook materials were prepared and sent to learner' PC or mobile phones. Students had been informed how to sing in and complete the activities at the beginning of the semester. VocabTutor used as same activity system in 2007 and 2008 by Stockwell was applied in this study. In this system six different activities types were involved; (a) appropriate word were chosen for an English sentence, (b) for a Japanese meaning appropriate English word were gathered, (c) for an English meaning, choosing the appropriate English word, (d) giving an English for an English definition, and (e) appropriate English word were written for an English sentence (Stockwell, 2010). For each lesson, activities included between 13 and 17 vocabulary items. According to the results; a) A huge

number of students did not complete the activities on mobile phones. b) The activity scores were compared and these scores achieved on both mobile phone and PC in a similar rate. c) To complete activities through mobile phones learners spent more time when compared the personal computer.

Wong and Looi (2010) reported two case studies in their research to work on mobile assisted vocabulary learning with primary school students. This study referred to seamless learning that related to learning via online or outside of class with formal or informal ways. In the first case study aim was to design seamless learning environment. Teacher prepared the lesson with the aids of researchers, they focus on six prepositions. Firstly teacher gave information about the prepositions and asked them to create illustrations of prepositions by using their hands and take photos of them. In the second case study which was 'Move Idioms 'the aim was to engage students with ongoing idioms. To achieve it primary school students were applied four activities (2 in class, 2 out of class). According to the results of this study; a) learners had positive attitudes toward the lesson, b) Learning via technology motivated students and it gave chance students to share pictures and visualize idioms, c) It encouraged students to work alone and supply discussion about what they did with other students and teacher.

Similarly, Lu (2008) investigated the effect of SMS for vocabulary lesson of limited lexical information on the small screens of mobile phone. 10th grade thirty students at high school (22 male, 8 female) participated to this study. The questionnaire, interview and test were conducted in order to collect data. Half of the participants learned vocabulary through printed materials and the others learned via mobile phones. According to the findings; a) the students had positive attitudes toward

learning vocabulary with SMS through mobile phone. b) Vocabulary learning with SMS offered students interesting and enjoyable conditions to motivate learners.

Song and Fox (2008) conducted a research to identify learners' vocabulary and use PDA to enhance students' incidental vocabulary learning. This study was implemented on an area where called English as a Medium of Instruction (EMI) university. According to the findings of this research students had positive attitude toward using PDA while learning vocabulary.

Fisher et al. (2009) also surveyed a learning vocabulary from paper books, e-books with dictionary and e-book with adaptive (ELMO system) software to use two different smartphones. Research was designed by involving three comparison groups had 13 students. According to results of the learners' score of Paul Nation's Vocabulary level test, they were distributed to those groups. The Hound of the Baskervilles, The Thirty-Nine Steps and Little Women appropriate in paper book, e-book and ELMO system were offered as option. They started differently by engaging with the technology. Research findings are as follows: each group agree that mobile or ELMO devices were effective and usable for learning English. Groups of students thought that ELMO devices and mobile phone motivated students to learn better.

On the contrary, Stockwell (2007) conducted a study in order to explore MALL system. In his study he compared mobile learning system and computer assisted language learning. He collected data quantitatively through test. Before he tested his students he applied a system which is called Vocabtutor. 11 students participated in this study. According to the results of this study some of the students thought that a)

it was difficult to see vocabulary items properly on the small screen of mobile phones , b) They would spent more time with the tasks, if they used mobile phone, c) clear preference were included for assigning vocabulary tasks on the computer according to access log.

Various studies (Chen, 2014; Korkmaz,2010 ; Alemi et al., 2012; Chu, 2011;Zhang et al.,2011; Saran and Seferoglu 2010; Stockwell,2010; Wong and Looi, 2010; Lu, 2008) have investigated the effectiveness of learning vocabulary through smartphones / mobile phones, PDA, SMS or MMS. These all studies' findings have indicated that smartphones and mobile phones are effective vocabulary learning devices. It is observed that some of the studies have minor problems about learning vocabulary with smartphones, but the reaction of children to smartphones are reflected assertively.

2.4 Summary

This chapter reviewed the literature regarding vocabulary learning, what does knowing a word mean, using mobile phone and smartphone while learning English, learning vocabulary and their effects on learning vocabulary from other researchers.

Chapter 3

METHOD

In this chapter, the first part presents the research design of the study. The second and third parts of this chapter describe the research context and the participants of the study. The following two sections explain the data collection process, data collection instruments in the study including a background-questionnaire, pre-test and post-tests, preparation and implementation of WhatsApp Academic Word List, questionnaire on smartphone use and a semi-structured interview.

3.1 Research Design

The current study has been designed as survey and experimental study that involves quantitative and qualitative research procedures in data collection and analysis. "Quantitative research methods attempt to maximize objectivity, replicability, and generalizibility of findings, and are typically interested in prediction" (Harwell, 2011, p.149). Qualitative research is described by Jackson (2008) as "a type of social research based on field observations that is analyzed without statistics" (p.86). This study also used triangulation because the data were collected more than two data collection instruments with pre-test and post-test, questionnaire and interviews. According to Yeasmin and Rahman (2012), "'Triangulation' is a process of verification that increases validity by incorporating several viewpoints and methods" (p.156).

3.2 Research Context

This study was conducted in the fall semester of the 2015-2016 academic years at the English Preparatory School (EPS), which is a part of Foreign Languages and English Preparatory School (FLEPS) at Eastern Mediterranean University − an international university in Northern Cyprus. FLEPS, which includes Modern Languages Division (MLD) and English Preparatory School is an accredited education center for Cambridge English for Speakers of Other Languages and for a certain number of significant international exams, consisting of IELTS (International English Language Testing System), TOEFL IBT (Test of English as a Foreign Language Internet-based Test), City and Guilds, TELC (The European Language Certificates), LCCI (London Chamber of Commerce and Industry) and TOLES (The Test of Legal English Skills). EPS provides not only a full range of basic English language courses as a medium of instruction, but also community programmes called Community Involvement Programs which facilitate and support learners doing projects. These projects fulfill a need in the community and help learners to become socially responsible. Both language courses and community programmes help learners succeed in their departments and in their academic and professional lives in the future. (http://sfl.emu.edu.tr/sfleps.html)

3.3 Participants

The sample size consists of 60 intermediate preparatory learners from four different classes within the age range between 18 and 2. All participants were undergraduate learners doing the foundation program before they start their departments.

In order to see whether there is a significant difference as a result of using the smartphone for vocabulary learning, sixty preparatory learners from different classes were selected: thirty as an experimental group and another thirty as a control group.

Experimental group of learners were chosen according to the frequency of using WhatsApp application in learning English vocabulary by taking into consideration the results of the background questionnaire. The participants came from different nationalities but the distribution was balanced in both groups (see Table 3.1 for the breakdown of nationalities). As stated in Table 3.1., 33, 3% of learners were from Republic of Turkey, 10,0 % of them were from Turkish Republic of Northern Cyprus and 56,7 % from other countries in the experimental group. It is also shown that 33% control group of learners were from Turkey, 16,7% of learners were from TRNC, 50,0 % control group of learners were from other countries.

Table 3.1: Demographic Data on Nationalities of Experimental and Control Group

		Frequency		Percent		Valid Percent		Cumulative Percent	
		Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group
Valid	TC	10	10	33,3	33,3	33,3	33,3	33,3	33,3
	TRNC	5	3	16,7	10,0	16,7	10,0	50,0	43,3
	Others	15	17	50,0	56,7	50,0	56,7	100,0	100,0
	Total	30	30	100,0	100,0	100,0	100,0		

In terms of gender, in the experimental group 46,7 % of the participants were female and 53,3 % of learners were male, the gender differences is almost similar in the control group 56,7% of learners were male and 43% of learners were female. The gender distribution in the experimental group and control group is shown in Table 3,2 below:

Table 3.2: Demographic Data on Gender of experimental group and control group

		Frequency		Percent		Valid Percent		Cumulative Percent	
		Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group
Valid	Male	17	16	56,7	53,3	56,7	53,3	56,7	53,3
	Female	13	14	43,3	46,7	43,3	46,7	100	100,0
	Total	30	30	100,0	100,0	100,0	100,0		

3.4 Data Collection

Both quantitative and qualitative data were collected. The main sources of data were: a background questionnaire, a pre-test, a post-test, the Questionnaire on Smartphone Use, and semi-structured interviews.

3.5 Data Collection Instruments

The data collection instruments were a background questionnaire, a pre-test, a post-test and questionnaire on smartphone use (Korkmaz, 2010). Participants' smartphones and WhatsApp application were considered as supplementary materials.

3.5.1 The Background-Questionnaire

In the first part of the study, a background-questionnaire was administered to sixty intermediate level preparatory learners in order to find out how frequently they use smartphones, how they use smartphones and for what purposes they use them both inside and outside of the classroom. The responses also gave an indication of the participants' attitude towards mobile technology. The smartphone application used in this study was determined according to the results of the background questionnaire.

3.5.2 Pre-Test and Post-Test

Quantitatively, firstly the Academic Vocabulary pre-test was prepared and given to the control group and experimental group in order to measure respondents' knowledge of the given words. Cronbach Alpha of this questionnaire is 0.85. In this research receptive skills were taken into consideration while selecting vocabulary items. The pre-test and post-test (see Appendix C) were designed according to high-frequency and low-frequency techniques suggested by Schmitt et al. (2001).

Fifty-four academic words were chosen from the lexis list of *New Language Leader* intermediate level textbook that is used in Prep school as a main course book. Lexis list intends to help learners to enhance their vocabulary knowledge and prepare them for their exams or quizzes. Academic words were arranged in order to comprehend their levels (K-1, K-2, Academic word…), by integrating the words into the 'lextutor' where you can test your vocabulary knowledge and work on the words needed to improve. Because the focus was on academic words, the pre-test was designed by taking into consideration the *Academic Vocabulary Levels Tests* developed by Schmitt, Schmitt and C. Clapham (2001). The definitions of the academic words were chosen from the level of K1 words (1-1000) and K2 words (1001-2000) by using the *Longman* dictionary and checking them in *http://www.lextutor.ca*. This pre-test was designed by considering the following seven various features that Schmitt, Schmitt and C. Clapham (2001) used while designing *Academic Vocabulary Levels Test*:

1) The options in this format are words instead of definitions.
2) The definitions are kept short, so that there is a minimum of reading, allowing for more items to be taken within a given period of time.
3) Words are learned incrementally, and tests should aim to tap into partial lexical knowledge (Nagy *et al*., 1985). The Levels Test was designed to do this. The option words in each cluster are chosen so that they have very different meanings. Thus,

even if learners have only a minimal impression of a target word's meaning, they should be able to make the correct match.

4) The clusters are designed to minimize aids to guessing. The target words are in alphabetical order, and the definitions are in order of length. In addition, the target words to be defined were selected randomly.

5) The words used in the definitions are always more frequent than the target words. The 2000 level words are defined with 1000 level words and, wherever possible, the target words at other levels are defined with words from the GSL (essentially the 2000 level) (for more details, see Nation, 1990: 264). This is obviously important as it is necessary to ensure that the ability to demonstrate knowledge of the target words is not compromised by a lack of knowledge of the defining words.

6) The word counts from which the target words were sampled typically give base forms. However, derived forms are sometimes the most frequent members of a word family. Therefore, the frequency of the members of each target word family was checked, and the most frequent one attached to the test. In the case of derivatives, affixes up to and including Level 5 of Bauer and Nation's (1993) hierarchy were allowed.

7) As much as possible, target words in each cluster begin with different letters and do not have similar orthographic forms. Likewise, similarities between the target words and words in their respective definitions were avoided whenever possible. (p.59)

Academic Vocabulary Test includes 18 nouns, 18 adjectives and 18 verbs. Pre-test was carried out on a selected number of experimental group learners (30) and control group learners (30). All of these words existed both on the academic word list and lexis lists of the main course book. While evaluating the pre-test results, the errors or words that were mismatched or left blank were all considered wrong answers. The pre-test consisted of fourteen words that were completely unknown to all participants and seven words which were known by a small percentage of participants. After completing words setting and deciding on the unknown words, they were sent to participants in the experimental group. Learners were free to ask any questions when they did not understand and had problems about study.

At the end of four weeks, post-test was administered to both experimental and control groups in order to measure the distinction between the two groups with regards to their performances in two different modes of instruction – via smartphone and using handouts.

3.5.3 Preparation and Implementation of WhatsApp AWL

In this study, WhatsApp was used to teach vocabulary. Each entry consisted of the following: definition, visual representation of the word, example of the word, part of speech, associations, collocations (Nation, 2001) via WhatsApp messages. Definitions, collocations and allocations of the words were taken from *Longman Dictionary* and *Oxford Dictionary*. Google search engine was utilized to find picture of a word. A total of three words were sent every day over a period of seven days. After learners were received WhatsApp messages, they should have understood the meaning of the word at a recognition level. Nine WhatsApp messages are presented below as examples, including two nouns, two adjectives and two verbs:

Figure 3.1: Word of Contract as WhatsApp message

Reside.nce – Noun

Definition: A house, especially a large or official one.

Example: Jeff has permanent *residence* in Canada, but is still a US citizen.

Word parts: reside - verb
reside.nt.ial - Adjective

Associations: building, design, modernization, place to stay

Collocations: permanent/temporary residence

Figure 3.2: Word of Residence as WhatsApp message

Consider.able – Adjective

Definition: Fairly large, especially large enough to have an effect or be important.

Example: We have saved a *considerable* amount of money.

Word Parts: consider-Verb
consider.abl.y -Adjective

Associations: significant, huge amount of

Collocations: considerable amount /number of

Figure 3.3: Word of Considerable message as WhatsApp message

Inadequate – Adjective

Definition: Not good enough, big enough, skilled enough etc. for a particular purpose.

Example: The parking facilities are *inadequate* for a busy shopping centre.

Word Part: in.adequa.cy-Noun

Associations: little, deficient

Collocations: totally/wholly/hopelessly inadequate; inadequate time/ income

Figure 3.4: Word of Inadequate as WhatsApp message

Assume – Verb

Definition: To think that something is true, although you do not have definite proof.

Example: I didn't see your car, so I *assumed* you'd gone out.

Word Part: assum.p.**tion** - Noun

Associations: example, think, simulate

Collocations: it seems reasonable to assume (that); let's assume (that); we can safely assume

Figure 3.5: Word of Assume as WhatsApp message

Commit – Verb

Definition: To do something wrong or illegal.

Example: Brady *committed* murder, so he went to prison for life.

Word Parts: Commit.**ment**-Noun

Commit.**tal**-Adjective

Associations: police, crime, murder, gun, mistake

Collocations: commit murder/suicide / adultery / a crime

Figure 3.6: Word of Commit as WhatsApp message
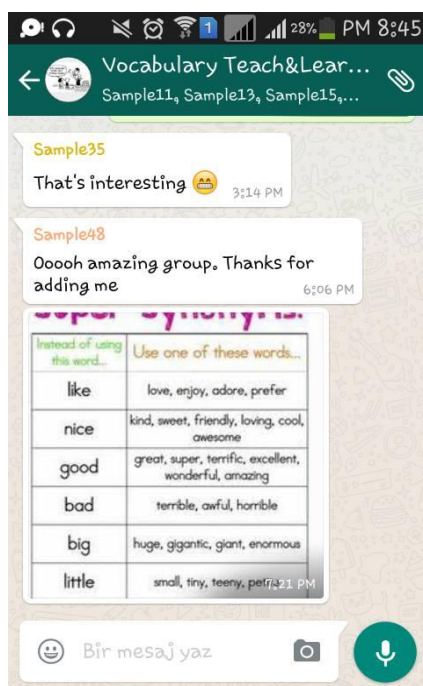
Figure 3.7: Reactions from learners

After creating a WhatsApp group, some positive reactions were received from participants. Some of the learners found the Vocabulary group interesting. After the first message, they started to send messages related to English language to the WhatsApp group, trying to share them with others. This shows that there were attempts to turn this mode of communication into an interactive one.

3.5.4 Questionnaire on Smartphone Use

At the end of all the applications, the participants were given a questionnaire on smartphone use (see Appendix E) that was prepared by Korkmaz (2010). Cronbach Alpha of this questionnaire is 0.85. It has 31 5-point Likert scale questions in order to measure impressions. Some minor adaptation was carried out to the questionnaire on smartphone use. That is, the term 'mobile phones' was replaced by 'smartphones' in accordance with the purpose of the present study and some irrelevant questions were omitted.

3.5.5 Semi-Structured Interview

The final part of the study includes a semi-structured interview (see Appendix F) which was designed to obtain further and more detailed data from two volunteered participants. Both of the participants were selected randomly and they were asked same questions. The interviews were recorded with the permission of the participants.

3.6 Data Analysis

Data analysis procedures applied in the present studies are referred to in this section. The current study used qualitative data collected through the semi-structured interview and quantitative data which were obtained through a background questionnaire, a pre-test, a post-test and questionnaire on smartphone use. The purpose of this study is to investigate how EFL learners use smartphones and

whether smartphones affect their learning of English vocabulary. The effect of smartphones was determined on the basis of the difference between the experimental and the control group post-test results.

These tests included academic vocabulary items that were taken from *New Language Leader English* course book and analyzed quantitatively. The quantitative data were analyzed using Statistical Package for Social Sciences 17.0. (SPSS statistics 17.0). Semi-structured interviews (qualitative data) were qualitatively analyzed to explore learners' thoughts of using smartphones to learn vocabulary.

3.7 Summary

In brief, the third chapter reviews the methodology of the present study. First, general information about the study was given and its context and participants were described in order. Then data collection techniques and instruments were explained. Last, the information about the data analysis was presented in the sixth section.

Chapter 4

DATA ANALYSIS

In chapter four, data analysis is presented in four parts: the analysis of the background questionnaire data, the pre-test and post-test scores in experimental and control groups, the analysis of the questionnaire data on smartphone use and semi-structured interview data.

4.1 Analysis of Background-Questionnaire

The learners were selected randomly from EMU-FLEPS, sixty intermediate level of learners participated to the study. The analysis of background questionnaire demonstrated that 93, 3% of learners have smartphones and 6, 7% of learners have mobile phones.

As indicated in Table 4.1 and Table 4.2, both the rate of using smartphones for learning English and the rate of using smartphones for learning English vocabulary are high, 86,7% and 83,3%, respectively.

Table 4.1: Using smartphone for learning English

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	6,7	6,7	6,7
	Yes	52	86,7	86,7	93,3
	No	4	6,7	6,7	100,0
	Total	60	100,0	100,0	

Table 4.2: Using smartphone for learning vocabulary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	6,7	6,7	6,7
	Yes	50	83,3	83,3	90,0
	No	6	10,0	10,0	100,0
	Total	60	100,0	100,0	

According to the background questionnaire, Table 4.3 below illustrates that WhatsApp is the most preferable application, rated by 75% of participants, for vocabulary learning. Therefore, WhatsApp was chosen as a means for teaching the unknown words in form of messages.

Table 4.3: Most useful application in learning vocabulary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	6,7	6,7	6,7
	WhatsApp	45	75,0	75,0	81,7
	Viber	1	1,7	1,7	83,3
	Skype	1	1,7	1,7	85,0
	Imo	1	1,7	1,7	86,7
	Hi	1	1,7	1,7	88,3
	Other	7	11,7	11,7	100,0
	Total	60	100,0	100,0	

4.2 The Pre-Test and Post-Test Data Scores in Experimental and Control Groups

This section compares the participants' performance on the pre-test and post-test in the experimental and control group in order to see which type of technique is effective WhatsApp or handout.

Table 4.4: Pre-Test Results

	Eperimental Group		Control Group	
	True	False	True	False
Unknown Words				
Export	0	30	0	30
Features	0	30	0	30
Revision	0	30	0	30
Thesis	0	30	0	30
Context	0	30	0	30
Contract	0	30	0	30
Flexible	0	30	0	30
Innovative	0	30	0	30
Commit	0	30	0	30
Refine	0	30	0	30
Respond	0	30	0	30
Promote	0	30	0	30
Investigate	0	30	0	30
Design	0	30	0	30
Lesser Known Words				
Range	9	21	8	22
Residence	6	24	12	18
Inadequate	8	22	9	21
Irrelevant	5	25	4	26
Crucial	5	25	4	26
Considerable	4	26	10	20
Assume	5	25	6	24

As shown in Table 4.4 above, the first 14 words were completely unknown to the participants while the next 7 words were known by a smaller percentage of participants ranging from 15% to 30%. These two groups of words were analysed

separately. These unknown words were sent by messages to 30 participants through WhatsApp of smartphones.

Table 4.5: Post Test Results

	Eperimental Group		Control Group	
	True	False	True	False
Unknown Words				
Export	21	9	17	13
Features	18	12	12	18
Revision	27	3	19	11
Thesis	29	1	23	13
Context	21	9	13	17
Contract	30	0	20	10
Flexible	21	9	25	5
Innovative	20	10	11	19
Commit	30	0	25	5
Refine	17	13	12	18
Respond	24	6	17	13
Promote	27	3	19	11
Investigate	22	8	16	14
Design	27	3	16	14
Lesser Known Words				
Range	23	7	15	15
Residence	26	4	19	11
Inadequate	23	7	17	13
Irrelevant	26	4	21	9
Crucial	19	11	23	7
Considerable	25	5	17	13
Assume	22	8	18	12

Overall regarding to the responses of learners, the results of post-tests (Table 4.5) demonstrated that the experimental group performed better than the control group.

As illustrated in Table 4.6 group statistics involved two different groups (28 experimental group and 30 control groups). 21 words that were not known by any learners were analysed. In the next column of learners' number, mean scores were given. While the mean score of experimental group was 9,50, the mean score of control group was 6,93.

Table 4.6: Group Statistics on Unknown Words

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Correct	Experimental Group	28	9,50	,923	,174
	Control Group	30	6,93	1,143	,209

Table 4.7 demonstrated group statistics including correct answers of experimental group (28 learners) and control group (30 learners). Seven words that were known by smaller percentage of the participants were analyzed. In the second column the mean scores of correct answers were measured between two groups. Experimental group had correct answers mean 5,50 versus control group had 4,37.

Table 4.7: Group Statistics on Lesser Known Words

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Correct	Experimental Group	28	5,50	,923	,174
	Control Group	30	4,37	,964	,176

To find out whether there is a statistically significant difference between the experimental and control groups, the Independent Samples T-tests were calculated. As shown in Table 4.8 and 4.9 below,

Table 4.8: Independent Samples Test of Unknown Words

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Correct	Equal variances assumed	,677	,414	9,369	56	,000	2,567	,274	2,018	3,115
	Equal variances not assumed			9,439	54,900	,000	2,567	,272	2,022	3,112

Table 4.9: Independent Samples Test of Lesser Known Words

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Correct	Equal variances assumed	,122	,728	4,566	56	,000	1,133	,248	,636	1,631
	Equal variances not assumed			4,573	55,961	,000	1,133	,248	,637	1,630

The table 4.8 and the table 4.9 illustrated the independent samples test of unknown words and independent samples test of lesser known words. In both t-tests the significance (2- tailed) level is, 000, (p < 0,05). It can be concluded that the

difference between the two groups is statistically highly significant both with the unknown words and the lesser known words.

4.3 Analysis of Questionnaire Data on Smartphone Use

The questionnaire items were given to 30 intermediate learners (experimental groups). Statistical Package for Social Sciences 17. was applied for analyzing the quantitative data. The results are shown in Table 4.10 below:

Table 4.10: General Tendencies towards Using Smartphones

	N	Always	Frequently	Sometimes	Seldom	Never	Mean	Std. Deviation
B1 I use my smartphone to make and receive calls.	28	80,0	16,7	3,3	0,0	0,0	4,77	,504
B9 I connect the Internet with my smartphone.	28	76,7	16,7	6,7	0,0	0,0	4,70	,596
B2 I use my smartphone to send and receive messages.	28	70,0	23,3	6,7	0,0	0,0	4,63	,615
B8 I use my smartphone as an alarm clock.	28	23,3	40,0	23,3	13,3	0,0	3,73	,980
B10 I use my smartphone for educational purposes.	28	13,3	50,0	33,3	3,3	0,0	3,73	,740
B4 I take photos and capture videos with my smartphone.	28	16,7	36,7	46,7	0,0	0,0	3,70	,750
B3 I listen to music with my smartphone.	28	20,0	43,3	23,3	13,3	0,0	3,70	,952
B6 I use my smartphone as an electronic dictionary.	28	13,3	43,3	40,0	3,3	0,0	3,67	,758
B7 I use my smartphone as a reminder.	28	10,0	13,3	40,0	33,3	3,3	2,93	1,015
B5 I use my smartphone to play games.	28	10,0	20,0	33,3	26,7	10,0	2,93	1,143
Valid N (listwise)	28							

General tendencies towards using smartphones and the purpose of using smartphones were revealed in this part of the questionnaire. As illustrated in Table 4.10 the mean of the items 1-10 in part B vary between 4,77 and 2,93 out of 5. High percentage of learners always use their smartphones to receive or make calls, connect to the internet and send or receive messages, with the mean score of 4,77; 4,70 and 4,63, respectively. The mean score of items 8 (*I use my smartphone as an alarm clock*), 10 (*I use my smartphone for educational purposes*), 4(*I take photos and capture videos with my smartphone*), 3 (*I listen to music with my smartphone*) and 6 (*I use my smartphone as an electronic dictionary*) can be ordered as 3,73; 3,73; 3,70; 3,70 and 3,67, respectively. High percentages of learners sometimes prefer to use their smartphones as a reminder and use their smartphone to play games with the mean score of 2.93.

Table 4.11: Messages and their contents

	N	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
C1 Messages sent were clear and understandable.	28	0,0	0,0	0,0	50,0	50,0	4,50	,509
C2 Teaching purposes of the messages sent were clear and understandable.	28	0,0	0,0	6,7	46,7	46,7	4,40	,621
C6 Message contents were the same as the contents of the textbooks (New Language Leader) used.	28	0,0	3,3	20,0	30,0	46,7	4,20	,887
C9Messages were kind of preparation for the topics and units to be covered later.	28	0,0	3,3	20,0	36,7	40,0	4,13	,860
C8 Messages were kind of practice for the topics covered in the textbooks.	28	0,0	3,3	16,7	60,0	20,0	3,97	,718
C7Message contents were convenient for reading again	28	0,0	3,3	20,0	53,3	23,3	3,97	,765

	N						Mean	Std
C5 Message contents were in parallel with in-class teaching.	28	0,0	0,0	23,3	70,0	6,7	3,83	,531
C3 I did not have difficulty in understanding the content intended to be supplemented with the messages sent.	28	0,0	6,7	33,3	36,7	23,3	3,77	,898
C4 I experienced technical problems in displaying the messages.	28	40,0	43,3	10,0	3,3	3,3	1,87	,973
Valid N (listwise)	30							

Regarding the preparatory learners' opinions Table 4.11 indicates the contents of the messages. It can be seen that the mean of the items 1-9 in part C ranked between 4.50 and 1.87 out of five. As can be seen in the Table 4.11 high percentage of learners both strongly agreed and agreed with items 1 (*Messages sent were clear and understandable*), 2(*Teaching purposes of the messages sent were clear and understandable*), 6 (*Message contents were the same as the contents of the textbooks -New Language Leader- used*); 100%, 93,4% and 76,7%, respectively. Whereas, in comparison with 1, 2 and 6 high percentages of learners disagreed (Disagree/Strongly disagree) 4 (*I experienced technical problems in displaying the messages*) and the mean of this item was 1.87. In a similar manner item 8 (*Messages were kind of practice for the topics covered in the textbooks*), 7 (*Message contents were in parallel with in-class teaching*), 5 (*Message contents were in parallel with in-class teaching*) and 3 (*I did not have difficulty in understanding the content intended to be supplemented with the messages sent*)were agreed (Strongly agreed and agreed) by most of the learners, the means of these items were; 3,97 ; 3,97; 3,83 and 3,77.

Generally, the results of this part demonstrated that messages sent to learners were useful and their contents were related with the contents of their course books.

Table 4.12: Learners' opinions of the use of Smartphones in learning vocabulary

	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
D1 Messages provided me with an opportunity to learn English vocabulary outside the class as well.	28	0,0	3,3	0,0	46,7	50,0	4,43	,679
D6 I read the messages I received later again by saving them on my mobile phone.	28	0,0	0,0	6,7	46,7	46,7	4,40	,621
D2 Messages made a significant contribution to my English vocabulary learning.	28	0,0	3,3	6,7	43,3	46,7	4,33	,758
D8 Receiving English vocabulary messages encouraged me to study.	28	0,0	0,0	23,3	40,0	36,7	4,13	,776
D5 I found the messages I received interesting.	28	3,3	0,0	16,7	56,7	23,3	3,97	,850
D3 Messages contributed to my comprehension of the content of textbooks.	28	0,0	10,0	10,0	53,3	26,7	3,97	,890
D7 Receiving English supplementary messages made me happy.	28	0,0	6,7	26,7	46,7	20,0	3,80	,847
D9 Contents of the textbooks and in-class learning were successfully supplemented by supplementary WhatsApp messages.	28	0,0	6,7	30,0	46,7	16,7	3,73	,828
D4 I did not find the idea of learning English vocabulary through messages realistic.	28	6,7	36,7	40,0	13,3	3,3	2,70	,915
D11 Receiving English vocabulary messages regularly made me bored.	28	60,0	23,3	13,3	0,0	3,3	1,63	,964
D10 Message contents were weak and boring in terms of	28	46,7	43,3	10,0	0,0	0,0	1,63	,669

instructiveness.							
D12 I deleted the messages without reading them.	28	93,3	3,3	3,3	0,0	0,0	1,10	,403
Valid N (listwise)	28						

As indicated in Table 4.12, the mean of the items 1-12 in the last part of the questionnaire ranked between 4.43 and 1.10 out of five. 96,7% of the experimental group participants agreed (Strongly Agree/Agree) with item 1 *(Messages provided me with an opportunity to learn English vocabulary outside the class as well)* , 93,4 % and 90% of learners agreed with items 6 (*I read the messages I received later again by saving them on my mobile phone*) and 2 (*Messages made a significant contribution to my English vocabulary learning*) and also 80 % of learners also agreed (Strongly Agree/Agree) with items 5 (*I found the messages I received interesting*) and 3 (*Messages contributed to my comprehension of the content of textbooks*), respectively. Items 7 *(Receiving English supplementary messages made me happy)* and 9 (*Contents of the textbooks and in-class learning were successfully supplemented by supplementary WhatsApp messages*) were agreed (Strongly Agree/Agree) by 66,7% and 63,4 % of the learners with the 3.80 and 3.73 mean scores, respectively. Moreover 40% of learners were undecided about item 4. 83,3 %, 90% and 96,6% of learners disagreed (Strongly Disagreed/Disagreed) with the items 11(*Receiving English vocabulary messages regularly made me bored*), 10 (*Message contents were weak and boring in terms of instructiveness*) and 12 (*I deleted the messages without reading them*), correspondingly.

In general the learners' attitudes towards the items in part D were positive regarding the use of smartphones in vocabulary learning.

4.4 Learners' Thoughts of Using Smartphones to Learn Vocabulary

Learners' opinions about the use of smartphones for vocabulary learning were collected through the learner semi-structured interviews.

On the basis of first question *"How did you feel about this new application (WhatsApp), what did you think of it?"* Learners answered this questions differently. Participant 1 stated that "Sometimes I don't understand the definition but when I see the picture I of course understand because it shows meaning of course it is better than usual dictionary. When you put the picture or something meaning for the word it is good and the definition of dictionary". Participant 2 indicated that "It was interesting because teacher used new applications learn vocabulary and I always use it".

When inquired *"Did you also have to look up some of the words in the dictionary?"* It is expressed to the content of the messages. Learners indicated that Participant1 look up English to Arabic dictionary to make sure the words, but he generally use English to English dictionary which name is Merriam-Webster: dictionary to remember a word. He also added that he does not remember the meaning of a word when he looks at the English to Arabic dictionary. However the second participant indicated that "I didn't look at dictionaries, each words have many information for example definitions, examples, picture, and two things but I don't remember".

As indicated in the third and fourth question *"How were pictures and drawings in general?"* and *"Were the definitions, examples, word parts, collocations and allocations that were sent through WhatsApp clear?"* According to the first participant pictures were good but he also indicated that 'It's good but some of them maybe I couldn't understand very well so I looked dictionary to understand'.

Whereas Participant2 stated that "When I think in detail about the relation between the picture and the other informations I easily understand what the means is". Both of the participants indicated that the messages were good. Participants thought that examples of the words were easy to understand. Participant 1 said "Yes yes very easy, When I see the dictionary some of them very hard. But the picture was too easy sentence is easy" Participant 2 answered "Yes they were very clear to understand, simple words used" for the examples of the words.

As a response for the fifth question "*Do you think the use of smartphone application which is WhatsApp here help you to develop your vocabulary?*", the learners indicated that because of being new application nowadays they found interesting and WhatsApp was useful to develop vocabulary knowledge both in the classroom environment and out, because they always keep their smartphones with them. Therefore they have chance to go back to them and remember the word. One of them also suggested that it would be better if many words were sent instead of twenty one. Participant 1: "Of course I think smart phone nowadays I have application learn me little Turkish. So I can deal with street. But if you can of course study in the school or study with someone Turkish example or English its better than applications. They are useful.' Participant 2: "Yes they are useful. I think WhatsApp application help me to develop 21 vocabularies. It is new application and we always carry our smartphones with us, but it many words were sent better".

To respond to the sixth questions "*Do you have any suggestion providing more effective vocabulary learning via smartphones?*", the learners pointed that WhatsApp includes voice recording features, so pronunciation of words could have been sent through WhatsApp. (Participant 2-There is voice recording characteristics

in WhatsApp. So we can hear the pronunciation of a word.) Learners may have chance to improve pronunciation skills of a new word with their suggestion. One of the participants also recommended that pronunciation of sentences should be included in the messages. He would like to hear sentences' pronunciation with British and American accents in order to be aware of the difference.(Participant 1-I think just one pronunciation, record pronunciation .Someone talk for example an new word industrial. also may be the sentence . Someone pronounce the sentence with a British and American accent .I think it is better than any dictionary because it has pictures.)

4.5 Summary

In the fourth chapter, the analysis of the present study was conducted. In the first section the analysis of the background questionnaire data was presented. In the second section, the analysis of the pre-test and post-test scores in experimental and control groups were analyzed and after the analysis of questionnaire on smartphone use was addressed, preparatory learners' thought of using smartphones to learn vocabulary was explained.

Chapter 5

DISCUSSION OF RESULTS AND CONCLUSION

This chapter focuses on discussion of results and conclusion of the study. Firstly, overview of the study was indicated and the results will be discussed concentrating on the research questions of the study. Then some implications and recommendations for teaching and learning English are explained after the conclusion.

5.1 Overview of the Study

This study investigated the count of 60 intermediate level of participants were English prep class learners who were from four different classrooms FLESPS at Eastern Mediterranean University during five weeks. According to the results of the background questionnaire the groups were divided into two as experimental and control groups. First, Pre-test was given to EFL participants in order to choose unknown words which were sent to them through WhatsApp. After the application process a post-test was given to the participants, in order to investigate the differences between if any, experimental group and control groups. Questionnaire on smartphone use was administered to explore the general tendencies towards using smartphones, compatibility of messages and their content, learners' opinions towards the use of smartphones for the purposes of learning vocabulary. After collecting the quantitative questionnaire data, two participants were interviewed in order to gain insights into learners' perceptions of using smartphones to learn vocabulary in detail.

5.2 Discussion of Results

This chapter will focus on discussing the four research questions of the present study.

5.2.1 Research Question 1: How do the EFL preparatory learners make use of smartphones?

The findings obtained from the results showed that a high percentage of the EFL preparatory learners use smartphones for personal purposes (such as making - receiving calls, sending - receiving messages, and so on) and for educational purposes. The results of the study indicate that 63.3% learners use their smartphones for educational purposes, 63.3% of learners listen to music with their smartphones, 56.6% of learners use their smartphones as an electronic dictionary and 30% of learners use smartphones to play games always/frequently. Listening to music and playing games are also important to promote language acquisition. "ELT can be implemented in a relaxed and enjoyable way by using English songs in EFL classes" (Shen, 2009, p.88). Similar findings were obtained from Chu (2011) in his study, learners initially thought that the smartphone was not appropriate to use permanently and it has lack of useful applications. Although learners thought the use of the smartphone is not related to the education, at the end of his study the findings revealed that using smartphones was effective to improve their vocabulary knowledge. Whereas Stockwell (2007) stated that smartphones were not suitable for educational purposes because it may be expensive for many learners to buy. The high percentage of participants in his study commented that the screen size of the smartphone was too small to see the writings on a screen properly and also learners might spend too much time on their smartphones for completion of tasks. In contradistinction to the study of Stockwell (2007), Thornton and Houser (2005) concluded that small screen is not a negative feature for education therefore learners

can benefit from smartphones. Saran and Seferoğlu (2010) stated that many stages should be followed while creating activities by using smartphones for educational purposes in order not to affect learners negatively.

5.2.2 Research Question 2: Do the EFL learners use smartphones for learning English?

The results obtained through the background questionnaire and questionnaire on smartphone use show that high a percentage of learners frequently use smartphones for learning English. According to obtained information, 86.7% of the EFL learners use their smartphones for learning English both inside and outside of the classroom. In regard to the use of smartphones for learning English, Thornton and Houser (2005) demonstrated that with the help of mobile web applications, learners use their smartphones for language learning. Kim et al. (2013) also reported that ICT can be a powerful tool to provide variety to learners and help them in learning English. All learners are unique; they are individually different with various learning styles (such as visual/auditory/verbal/musical). Interview results indicate that learners show learning differences and show positive attitudes towards the use of smartphone because it involves pictures which help them to understand better. One of the participants replied some of the questions with the importance of picture. For example, "sometimes I don't understand the definition but when I see the picture I of course understand because it shows meaning of course it is better than usual dictionary". Therefore it is revealed that he is visual learner and smartphone help him to learn vocabulary with visual representation. In a similar vein of Yang et al. (2013) used MyEVA system which helps learners to learn vocabulary provided learners four different learning styles (kinesthetic, tactile, visual and auditory). Also Wong and Looi (2010) learning via mobile technology motivated students and gave chance

students to share pictures and visualize idioms. Similarly, Schachter (2009) argued that he integrated the mobile phone into the classroom setting, because it supplies different and colorful materials which were reported as dictionary, mobile flashcards, watching video podcasts or listening audio post cast by Hockly (2012) to the learners. On the contrary Parker, Lenhart, and Moore (2011) reported that the use of technology has disadvantages for learning English because of the plagiarism problem in the classroom while writing an essay.

5.2.3 Research Question 3: Do the preparatory learners use smartphones for learning vocabulary?

It was discovered that preparatory learners often use their smartphones for learning vocabulary. The learners' responses show that they generally prefer to use online-dictionary to learn a new word, but teachers are not involved in this period. For example, one of the participants indicates that he uses the Merriam dictionary to find the meaning of a word. He prefers English to English dictionaries in order to remember the words for the future. According to the analysis of the questionnaire results on smartphone use 13% of the learners always use their smartphones as an electronic dictionary as follows 43,3% of them frequently and 40,0 % of them sometimes.   This findings show that smartphones were used in order to improve vocabulary learning by preparatory learners.

With regard to the use of smartphones for learning vocabulary Tabatabaei and Goojani (2012) stated that becoming an autonomous learner requires different learning styles, so they investigated the effectiveness of mobile phones on vocabulary learning. As a result, both learners and teachers in that study had positive perceptions of the use of mobile applications and they were motivated. Saran and

Seferoğlu (2010) held that using smartphones has a great potential for vocabulary learning and provides more practice for variety of learning. Similarly Wong and Looi (2010) stated MALL provides seamless learning (online learning or outside of the classroom) and encourages learners to study alone. According to him learners should integrate mobile learning with vocabulary learning.

5.2.4 Research Question 4: Does the use of smartphones have an effect on the preparatory learners' vocabulary learning?

The findings which are obtained from the questionnaire and interviews show that the use of smartphones has a significant effect on learners' vocabulary learning. According to the results, a high percentage of learners state that the messages receiving made a significant contribution to their English vocabulary learning. They were motivated and kept messages in their smartphones and they sometimes went back to the messages again. As to the learners' responses when they did not understand the definition of a word, pictures helped them to understand better, because smartphones supply colorful pictures. In the present study, the learners indicate that "Learning vocabulary via smartphones is effective, because our smartphones are always with us, so learners can look and remember the words wherever they need". Similarly Chu (2011) found that learners continue to keep their vocabulary applications on smartphones and functionality of smartphones had significant effects on vocabulary learning. The present findings may become different from the other studies' findings which were found by different researchers. As it was mentioned in the first question, the findings of some studies were negative. For instance the results of Stockwell (2007) and Stockwell (2010) showed that smartphones do not have an effect on vocabulary learning whereas learners did not complete the activities while using smartphones, they spent their times with different

applications and some of the learners found the screen size of the phone too small to learn vocabulary. In a similar vein of Chu (2011) and Lu (2008) thought that the mobile phone includes limited information, learners may not see the complete text because of the small screen. But, according to their results, learners have positive attitudes towards the use of mobile phones while learning English. In this study, the use of smartphones has a statistically significant effect on learners' vocabulary learning. In a Turkish context Korkmaz (2010) found out that mobile phone messages may be served as supplementary material for the English preparatory learners and it has positive effects on learners' motivation for learning English. Similarly, Saran and Seferoglu (2010) stated that use of mobile phones enhance vocabulary knowledge with the visual representation. In a recent study, Alami and Labi (2012) found that there was no significant difference between control groups and experimental groups. Although the findings of Yang et al. (2013) Alhabahba et al. (2014) and Chen (2014) did not show significant effect of smartphones on vocabulary learning, but their learners responded positively to the use of smartphones.

5.3 Conclusion

In conclusion, according to the results which were presented in the previous chapter preparatory learners generally prefer to use their smartphones for mostly personal purposes and sometimes educational purposes. Moreover, for learning English, many learners take the advantages of smartphones. The learners indicated that smartphones assisted them in developing their vocabulary learning skills. They used different dictionary applications to find the meaning of a word, but the dictionary did not supply a picture/visual of a word, so according to their perspectives the use of smartphones had positive effects on vocabulary learning via. Especially, WhatsApp

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proved to be a useful application for this purpose. It encouraged learners to keep resorting to those messages stored on in their smartphones.

5.4 Implications and Recommendations

This section contributes some implications for English Language Teaching and makes recommendations for further research.

5.4.1 Implications for ELT

1. Vocabulary learning can be improved through 'recycling', so learners can have a chance to look at words recurrently on smartphones or mobile phones.

2. Autonomous learning can be promoted through the use of smartphones because learners can learn by themselves outside of the classroom.

3. Teachers or instructors should be aware of technology applications to education. Therefore, teacher training programmes should include components on using technology in the classroom. Such know-how would be useful in their teaching and their own professional development.

4. The use of smartphones could be introduced to curriculum design in order to bring variety into ways of teaching much-used materials. Some learners might prefer visual representations.

5. Mobile learning of vocabulary can be supported by designing online dictionaries delivered via smartphone applications.

5.4.2 Recommendations for the Further Research

1. This study can be replicated in different context with greater number of participants.

2. Prospective studies can undertake multiple words for their research purposes, so more words can be used in further studies.

3. The pronunciation feature can be added to the smartphone message.

4. This study revealed significant findings regarding intermediate learners. Similar studies may be conducted with learners at higher/lower levels of proficiency.

5. Specialized glossaries may be designed to supplement the current course books used in intensive English programmes.

5.5 Limitations of the Study

Using smartphones has positive effects on learning vocabulary for many learners Chu (2011); Korkmaz (2011); Lu (2008). Inspite of its effectiveness, the present study has several limitations as follows.

First of all, learners were sent messages including unknown vocabulary items through WhatsApp. These words were presented and tested only receptively rather than productively. Secondly, a technical problem occurred. On this application, it can be easily seen if the messages were delivered or the messages were seen or not. However, it was realized that two of the participants did not receive the messages during the experiment. The second limitation of this study was that several control group participants who were absent got their vocabulary worksheets one day later because of their absenteeism. This case caused a time difference among the participants, although they were supposed to receive the words at the same time. Finally, a greater number of participants could be interviewed in order to get more information concerning the experiment.

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APPENDICES

Appendix A: Permission Letter

To   :Ahmet Ersoy Hıdıroğlu

                FLEPS Director Acting

From   : Merve Güdücü

                MA Student

Subject   : The Uses of Smartphones among University Students and their Effects on Vocabulary Learning in Foreign Language English Preparatory School

Date   : 26 / 10 / 2015

I would like to request permission to carry out my research study on the uses of smartphones and their implementation in the English Preparatory School. The research will be conducted as a partial requirement of Master Thesis in ELT under the supervision of Assist. Prof. Dr. İlkay Gilanlıoğlu. The data will be collected using pre-test, post-test, a questionnaire on smartphone use, and semi-structured interviews. I will consider the EPS academic calendar to make sure that data collection does not intervene in any period of exams or other assessment. You can find details of these procedures below;

- Pre Test (Appendix I): Pre-test will be carried out with both experimental and control groups. The aim of the pre-test is to learn students' background knowledge of keywords that I'll use in an application part. Pre-test will be designed according to Academic Level tests techniques from the study of Schmitt (2001). Based on the responses of participants I will focus on wrong answers, because I will send these words with their explanations via smartphone to students (Smartphone use texting).

- Post Test (Appendix I): After the use of smartphone applications, learners will be given a post-test to identify their improvement.

- Questionnaire on smartphone use (Appendix II): Questionnaire on smartphone use was designed by Korkmaz (2010). It will help me to see if there is an effect on using smartphones among university students and their opinions.

- Interview (AppendixIII): It helps me to see what students understand and feel about the usage and benefits of the smartphones while learning vocabulary. Based on the responses of the participants, further questions may be added during the interview although these will also remain within the general theme.

The analysis of data to be obtained will reveal how smartphones are used in vocabulary learning. Based on this data, suggestions will be made on how teachers can integrate smartphones effectively in a language learning environment to meet learners' needs.

I would be grateful if you could consider my request favourably.

Kind regards.

Appendix B: Consent Form

Dear Participants,

I am investigating "The Uses of Smartphones among EFL learners and their Effects on Vocabulary Learning in Foreign Language English Preparatory School" as a partial requirement for my Master's Thesis in ELT. The data collected will be used for research purposes only. I assure that your identity and any information you provide will be confidential. If you agree to participate in this research, please fill in and sign the consent form below. I would be grateful if you could answer the questions frankly.

Thank you for your co-operation.

Researcher,

Merve Güdücü
ELT Department
Eastern Mediterranean University

Participant's signature: _____

Participant's phonenumber:_____

Date: _____

Background Questionnaire

Directions: This questionnaire is designed to identify whether you use a smartphone and the ways in which you use it.

- **Please choose the most appropriate alternative for you.**

1) Gender: a) Male b) Female

2) Age:

a) Under 18

b) 18-20

c) Over 20

3) Nationality _____

1. Do you have a phone? ☐ Yes ☐ No

2. If yes, which type of phone do you have?
☐ mobile phone   ☐ smartphone   ☐ other………………………

   If you have ticked the box for smartphone, continue with Question 3. Otherwise, go straight to the Vocabulary Test on page 4.

3. If you own a(n) smartphone, how often do you use it?
☐ always   ☐ usually   ☐ sometimes   ☐ seldom   ☐ never

4. What do you use your smartphone for? For what purposes?
_____

   __

5. Do you ever use your smartphone for learning English?

   ☐ Yes   ☐ No

6. Which mobile application(s) do you use for learning English? And how often do you use them for this purpose?

	Always	Frequently	Sometimes	Seldom	Never
WhatsApp					
viber					
skype					
tango					
imo					
Hi					
other……………..					

7. Do you use a smartphone for vocabulary learning?

☐ Yes   ☐ No

8. If yes, which application(s) on the smartphone do you use for vocabulary learning? And how often do you use them for this purpose?

	Always	Frequently	Sometimes	Seldom	Never
WhatsApp					
viber					
skype					
tango					
imo					
Hi					
other……………..					

9. Which application(s) do you find most useful in learning vocabulary?

☐ WhatsAp ☐ viber ☐ skype ☐ tango ☐ imo ☐ hi

others……………….

10. Other comments: ……………………………………………………………

Appendix C: Academic Vocabulary Pre-Test – Post-Test

Directions: This test is designed to assess whether you know the following keywords. It is not a quiz and you are not going to be graded, so answer only those that you know.

You must choose the right word to go with each meaning. Write the number of that word next to its meaning. Here is an example:

1- *business*
2- *clock*   _____ *part of a house*
3- *horse*   _____ *animal with four legs*
4- *pencil*   _____ *something used for writing*
5- *shoe*
6- *wall*

Answer it in the following way:

1- *business*
2- *clock*   __6__ *part of a house*
3- *horse*   __3__ *animal with four legs*
4- *pencil*   __4__ *something used for writing*
5- *shoe*
6- *wall*

1- author
2- challenge   _____ proof
3- evidence   _____ district
4- method   _____ special offer
5- promotion
6- region

1- capacity
2- construction   _____ the progress of changing something
3- export   _____ the progress of forming something from ideas
4- features   _____ the use of money to get a profit
5- investment
6- revision

1- bulk
2- partnership   _____ aim or object
3- range   _____ variety of things / people
4- resources   _____ all the things that are convenient to use
5- target
6- text

1- context
2- item   _____ study
3- lecturer   _____ teacher
4- prospects   _____ settlement
5- residence
6- thesis

1- benefit
2- context   _____ situation
3- device   _____ written words
4- factor   _____ object or machine
5- text
6- volume

1- contract
2- data   _____ information
3- exploitation   _____ a formal statement
4- fees   _____ an amount of money
5- theory
6- version

1- accurate
2- considerable   _____ attractive in a fashionable way
3- motivated   _____ directly related to the subject
4- objective   _____ very willing to do something
5- relevant
6- stylish

1- controversial
2- equivalent   _____ clear
3- flexible   _____ unequal
4- innovative   _____ progressive
5- obvious
6- predictable

1. inadequate
2. irrelevant   _____ weak
3. minor   _____ unconcerned
4. neutral   _____ small or not important
5. physical
6. whereas

1- accessible
2- crucial   _____ unlawful
3- dramatic   _____ extremely large
4- enormous   _____ extremely necessary
5- illegal
6- potential

1- adequate
2- considerable   _____ looking almost the same
3- domestic   _____ noticeable importance
4- explicit   _____ enough or satisfactory
5- integral
6- similar

1- complex

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2- dramatic _____ clever
3- intelligent _____ happening or existing before
4- liberal _____ not saying or doing anything
5- neutral
6- previous

1- aid
2- construct _____ to help
3- debate _____ to discuss
4- devote _____ to encourage, support
5- implicate
6- promote

1- consume
2- exploit _____ to set free
3- ignore _____ to need of something
4- investigate _____ to try to find out the truth
5- release
6- require

1- assume
2- commit _____ to suppose
3- involve _____ to improve a way
4- publish _____ to do something wrong
5- refine
6- transfer

1- alter
2- collapse _____ reply
3- deviate _____ fall down
4- implicate _____ turn into
5- respond
6- transform

1- abandon
2- communicate _____ to intend
3- design _____ to share information
4- ensure _____ to take part in
5- migrate
6- participate

1- convene
2- evaluate _____ to judge the quality
3- identify _____ to recognise someone or something
4- obtain _____ to keep or continue to have something
5- retain
6- unify

Appendix D: Vocabulary Worksheet

I am investigating "The Uses of Smartphones among EFL learners and their Effects on Vocabulary Learning in Foreign Language English Preparatory School" as a partial requirement for my Master's Thesis in ELT. The aim of this worksheet is to teach vocabulary items that you didn't know on the vocabulary test. You will be given worksheets that include the meaning, visual representations, collocations, examples and associations of those vocabulary items.

Export – Noun

Definition: The business of selling and sending goods to other countries.

Example: *Hellim* (cheese) is one of the chief *exports* of Cyprus.

Word Parts: export.**er**-Noun
                export - Verb

Associations: marketing, goods, seller, shipping, transport

Collocations: export market / industry / earnings

Flex.ible – Adjective

Definition: A person, plan etc. That is flexible can change or be changed easily to suit any new situation.

Example: The government needs a more *flexible*

approach to education.

Word Parts: flex.ibl.y-Adverb

flex.ibil.ity-Noun

flex-Verb

Associations: variable, adaptable,

Collocations: extremely /highly / fairly flexible

Promote – Verb

Definition: To give someone a better, more responsible job in a company.

Example: Helen was *promoted* to senior manager.

Word Parts: Promot.ion-Noun

Promot.ion.al-Adjective

Associations: job, career, advance, support, higher position

Collocations: directly /deliberately promoted aim to/ seek to / promote

Feature – Noun

Definition: A part of something that you notice because it seems important, interesting, or typical.

Example: An important *feature* of Picasso's paintings is their bright colours.

Word Parts: feature.less - Adjective
feature - Verb

Associations: characteristic, property, quality, element, theme

Collocations: main / important / significant feature

Innovat.ive – Adjective

Definition: An innovative idea or way of doing something is new, different and better than those that existed before.

Example: We need to introduce *innovative* schemes for recycling waste materials.

Word Parts: Innovate-Verb
Innovat.ion/Innovat.or/Innovat.or.y-Noun

Associations: technology, idea, invention, revolution

Collocations: innovative way / approach/ research/ idea

Commit – Verb

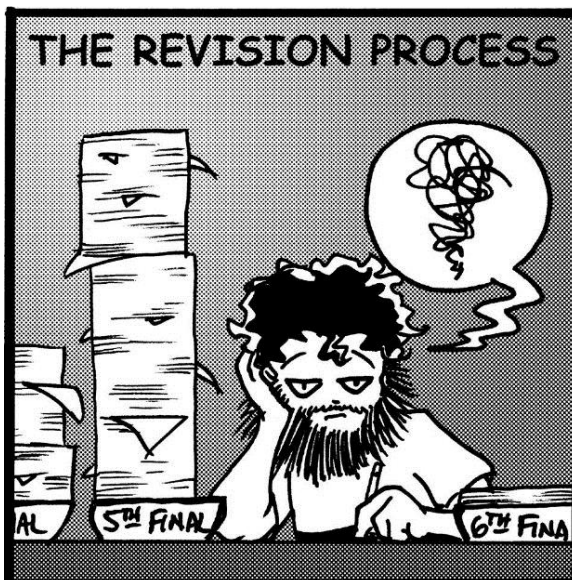**Definition:** To do something wrong or illegal.

Example: Brady *committed* murder, so he went to prison for life.

Word Parts: Commit.ment-Noun

Commit.tal-Adjective

Associations: police, crime, murder, gun, mistake

Collocations: commit murder/suicide / adultery / a crime

Revis.ion – Noun

Definition: The process of changing something in order to improve it by correcting it or including new information or ideas.

Example: The judge wants to see a *revision* of the procedures.

Word Parts: revis.ion/ revis.ion.ism / revision.ist Noun

revise-Verb

revision.ist- Adjective

Associations: exam, course, quiz, study, preparation

Collocations: do revision (for an exam); make revision (to a book)

Inadequate – Adjective

Definition: Not good enough, big enough, skilled enough etc. for a particular purpose.

Example: The parking facilities are *inadequate* for a busy shopping centre.

Word Part: **in**.adequa.**cy**-Noun

Associations: little, deficient

Collocations:totally/wholly /hopelessly inadequate; inadequate time/ income

Refine – Verb

Definition: To improve a method, plan system etc. by gradually making slight changes to it.

Example: Car makers are constantly *refining* their designs.

Word Parts: refine.d-Adjective
refine.ment-Noun

Allocations: learn, development, high quality,

Collocations: attempt to /try to /help (to) refine;Constantly/increasingly/slightly refine

Thesis – Noun

Definition: A long piece of writing about a particular subject that you do as a part of an advanced university degree such as a master's or doctor of philosophy (PhD) degree.

Example: He wrote his doctoral *thesis* on contemporary French literature.

Word Part: -

Associations: master's, research, study, challenging process

Collocations: graduate; master's/doctoral degree

Ir.relevant – Adjective

Definition : Not useful or not relating to a particular situation, and therefore not important.

Example : We are focusing too much on *irrelevant* details.

Word Parts : ir.relevan.ce – Noun

ir.relevan.cy – Noun

Associations : different, unnecessary
Collocations : totally/ largely/completely irrelevant

Respond – Verb

Definition: To do something as a reaction, to say or write something as a reply.

Example: He *responded* that he didn't want to see anyone.

Word Parts: respond.ent -Noun

respon.se-Noun

Associations: message, conversation, words, listen

Collocations: respond to a question; respond quickly/politely/well/rapidly

Context – Noun

Definition: The situation, events or information that are related to something and that help you to understand it.

Example: The meaning of 'mad' depends on its *context.*

Word Parts: context.ual-Adjective

context.ual.ise-Verb

Association: place, time, people, reason, specific thing, manner

Collocations: political / social / historical context; place/put/see something in context

Consider.able – **Adjective**

Definition: Fairly large, especially large enough to have an effect or be important.

Example: We have saved a *considerable* amount of money.

Word Parts: consider-Verb

consider.abl.y –Adjective

Associations: significant, huge amount of

Collocations: considerable amount /number of

Design – **Verb**

Definition: To make a drawing or plan of something that will be made or built.

Example: She *designed* a new logo for the company.

Word Parts: Design/Design.er – Noun

Associations: new buildings, modern, creativity, graphic, motif

Collocations: decorative / furniture /graphic design

Contract – Noun

Definition: An official agreement between two or more people, stating what each will do.

Example: The firm operates schools under *contract* to state education authority.

Word parts: Contract-Verb

Contract.ual-Adjective

Contract.ual.ly-Adverb

Associations: formal, writing, agreement, rules, legal

Collocations: make a contract; sign a contract; agree to a contract; break a contract

Retain – Verb

Definition: to keep something or continue to have something.

Example: You have the right to *retain* possession of the goods.

Word Parts: retain.er-Noun

retain.ment -Noun

Associations: employees, customers, knowledge, clients

Collocations: be allowed to/manage to/be entitled to retain

Range – Noun

Definition: A number of people or things that are all different, but are all of the same general type.

Example: University students are from a wide*range* of backgrounds.

Word Parts: -

Associations: variety, people, things, difference

Collocations: wide/broad/full/whole range of sth; age/ price/ temperature range

Reside.nce – Noun

Definition : A house**,** especially a large or official one.

Example : Jeff has permanent *residence* in Canada, but is still a US citizen.

Word parts: reside - verb
reside**.nt.ial** - Adjective

Associations: building, design, modernization, place to stay
Collocations: permanent/temporary residence

Investigate – **Verb**

Definition: To try to find out the truth about or the cause of something such as a crime, accident, or scientific problem.

Example: I heard a noise and went downstairs to *investigate.*

Word Parts: investigat.ion - noun
investigat.ive - adjective
investigat.or - noun
investigat.or.y - adjective

Associations: detail, information, observation, research

Collocations: agree to/promise to investigate; investigate the effect
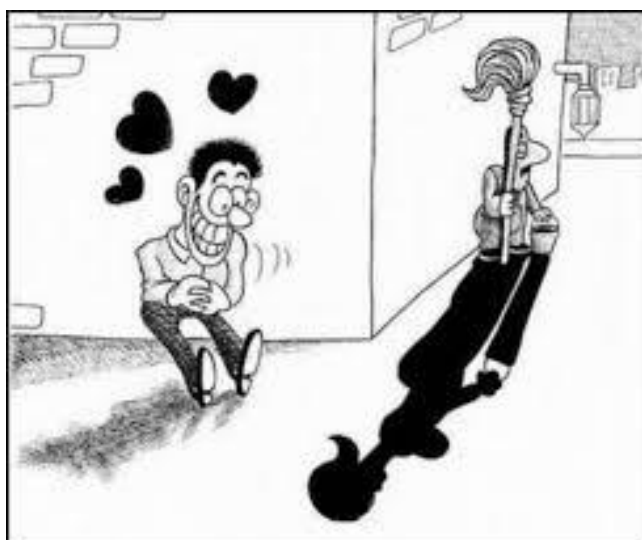
Assume – **Verb**

Definition: To think that something is true, although you do not have definite proof**.**

Example: I didn't see your car, so I *assumed* you'd gone out.

Word Part: assum.p.**tion -** Noun

Associations: example, think**,** simulate

Collocations: it seems reasonable to assume (that); let's assume (that); we can   safely assume

Appendix E: Questionnaire on Smartphone Use

Dear students,

I'm investigating ' The Uses of Smartphones among EFL learners and their Effects on Vocabulary Learning in Foreign Language English Preparatory School' ,as a partial requirement of Master Thesis in ELT. The data collected will be used for the research purpose only. I assure that your identity and the information you provide will be confidential. If you agree to participate in this research, please fill in and sign the consent form below. I would be grateful if you answer the questions frankly.

Thank you for your co-operation and precious contribution.

Researcher,

Merve Güdücü   Participant's
signature:_____

ELT Department   Date: _____

Eastern Mediterranean University

A) Please choose the most appropriate alternative for you.

1) Gender: a) Male b) Female

2) Age:

a) Under 18

b) 18-20

c) Over 20

3) Nationality _____

B) This section includes questions exploring your general tendencies and attitudes towards using smartphones.	Never	Seldom	Sometimes	Frequently	Always
1. I use my smartphone to make and receive calls.	1	2	3	4	5
2. I use my smartphone to send and receive messages.	1	2	3	4	5
3. I listen to music with my smartphone.	1	2	3	4	5
4. I take photos and capture videos with my smartphone.	1	2	3	4	5
5. I use my smartphone to play games.	1	2	3	4	5
6. I use my smartphone as an electronic dictionary.	1	2	3	4	5
7. I use my smartphone as a reminder.	1	2	3	4	5
8. I use my smartphone as an alarm clock.	1	2	3	4	5
9. I connect the Internet with my smartphone.	1	2	3	4	5
10. I use my smartphone for educational purposes.	1	2	3	4	5

C) This section includes questions about the supplementary messages and their contents which were sent to you during the study.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

	1	2	3	4	5
1. Messages sent were clear and understandable.					
2. Teaching purposes of the messages sent were clear and understandable.	1	2	3	4	5
3. I did not have difficulty in understanding the content intended to be supplemented with the messages sent.	1	2	3	4	5
4. I experienced technical problems in displaying the messages.	1	2	3	4	5
5. Message contents were in parallel with in-class teaching.	1	2	3	4	5
6. Message contents were the same as the contents of the textbooks (New Language Leader) used.	1	2	3	4	5
7. Message contents were convenient for reading again later and studying English.	1	2	3	4	5
8. Messages were kind of practice for the topics covered in the textbooks.	1	2	3	4	5
9. Messages were kind of preparation for the topics and units to be covered later.	1	2	3	4	5

D) This section includes questions exploring your opinions towards supplementing in-class English vocabulary learning through WhatsApp messages.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. Messages provided me with an opportunity to learn English vocabulary outside the class as well.	1	2	3	4	5
2. Messages made a significant contribution to my English vocabulary learning.	1	2	3	4	5
3. Messages contributed to my comprehension of the content of textbooks.	1	2	3	4	5
4. I did not find the idea of learning English vocabulary through messages realistic.	1	2	3	4	5
5. I found the messages I received interesting.	1	2	3	4	5
6. I read the messages I received later again by saving them on my mobile phone.	1	2	3	4	5
7. Receiving English supplementary messages made me happy.	1	2	3	4	5
8. Receiving English vocabulary messages encouraged me to study.	1	2	3	4	5
9. Contents of the textbooks and in-class learning were successfully supplemented by supplementary WhatsApp messages.	1	2	3	4	5
10. Message contents were weak and boring in terms of instructiveness.	1	2	3	4	5
11. Receiving English vocabulary messages regularly made me bored.	1	2	3	4	5
12. I deleted the messages without reading them.	1	2	3	4	5

Appendix F: Semi-Structured Interview Questions

1. How did you feel about this new application (WhatsApp), what did you think of it?

2. Did you also have to look up some of the words in the dictionary?

3. How were pictures and drawings in general?

4. Were the definitions, examples, word parts, collocations and allocations that were sent through WhatsApp clear?

5. Do you think the use of smartphone application which is WhatsApp here help you to develop your vocabulary?

6. Do you have any suggestion providing more effective vocabulary learning via smartphones?