

INVESTIGATING THE USE OF MOBILE-BASED
VOCABULARY NOTEBOOKS
ON STUDENTS' VOCABULARY ACHIEVEMENT
IN ENGLISH LANGUAGE LEARNING

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ÖZLEM ZENGİN ÜNAL

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Prof. Dr. Meliha Altunışık
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

Prof. Dr. Ayhan Demir
Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

Prof. Dr. Meral Aksu
Supervisor

Examining Committee Members

Prof. Dr. Ahmet Ok (METU, EDS) _____

Prof. Dr. Meral Aksu (METU, EDS) _____

Assist. Prof. Dr. Sevinç Gelmez Burakgazi (H.Ü., EDS) _____

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name : Özlem Zengin Ünal

Signature :

ABSTRACT

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Zengin Ünal, Özlem

Msc, Department of Curriculum and Instruction

Supervisor : Prof. Dr. Meral Aksu

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With the increased development of technology, English language learning and teaching have been affected profoundly. The high demand on the use of mobile devices like smart phones, Ipads, etc in daily life has given a rise to mobile learning in foreign language learning. The main purpose of this study was to investigate the differences in vocabulary achievement level of students in keeping mobile-based and paper-based vocabulary notebooks in English language learning. The study was designed according to pre-post control group quasi-experimental design. There were 20 students in each group whose English level was B2 at Bilkent University School of English Language. Data were collected through a vocabulary achievement test which was used as both pre and post tests. To collect in-depth information related to using mobile-based vocabulary notebooks, semi-structured interviews were also conducted with some students in the experimental group at the end of the study. The results were analyzed using descriptive and inferential statistics techniques. The quantitative data were analyzed through Mixed- ANOVA and independent samples

Mann-Whitney U test and the qualitative data were analyzed through content analysis. The results of quantitative data indicated that mobile-based vocabulary notebooks have positive effects on students' vocabulary achievement and the qualitative data analysis supported this finding as well. The students were very positive about the use of mobile-based vocabulary notebooks.

Keywords: Mobile Learning, Mobile applications, Vocabulary notebooks, Vocabulary achievement in English

ÖZ

İNGİLİZCE ÖĞRENİMİNDE MOBİL KELİME DEFTERİ KULLANARAK ÖĞRENCİLERİN KELİME BAŞARILARININ ARAŞTIRILMASI

Zengin Ünal, Özlem

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Teknolojinin hızla yaygınlaşması ve gelişmesiyle birlikte İngilizce eğitimi ve öğretimi de büyük bir ölçüde etkilenmiştir. Akıllı telefon ya da İpad gibi mobil araçlara olan yoğun talep sebebiyle de yabancı dil eğitiminde mobil öğrenmenin etkileri görülmektedir. Bu çalışmanın asıl amacı İngilizce öğrenmede mobil kelime defteri ve kelime defteri tutmanın öğrencilerin kelime başarı seviyelerindeki farkları incelemektir. Bu çalışmada ön test ve son test kontrol grup yarı-deneysel araştırma deseni kullanılmıştır. Her grupta Bilkent Üniversitesi İngiliz Dili Meslek Yüksek Okulu hazırlık programında okuyan ve İngilizce seviyeleri B2 olan 20 öğrenciler vardır. Bu çalışmadaki veriler ön test ve son test olarak kullanılan kelime testiyle toplanmıştır. Mobil kelime defteri kullanmak ile ilgili derinlemesine bilgilere ulaşmak için, deneysel gruptaki bazı öğrencilerle mülakatlar yapılmıştır. Bu çalışmadaki nicel veriler kelime başarı testiyle ön ve son test olarak toplanmıştır ve nicel veriler de deney grubundaki bazı öğrencilerle çalışma sonu yapılan mülakatlardan toplanmıştır. Elde edilen sonuçlar betimleyici ve yordayıcı istatistik

yöntemleriyle analiz edilmiştir. Nicel veriler karışık deęişkenli varyans analizi ve bağımsız Mann-Whitney U test ile, nitel veriler de içerik yöntemiyle analiz edilmiştir. Nicel verilerin sonuçlarına göre mobil kelime defteri öğrencilerin kelime başarılarını olumlu şekilde etkilemektedir ve bu sonuç nitel verilerle de desteklenmiştir. Öğrenciler mobil kelime kullanımıyla ilgili olumlu yorumlar yapmıştır.

Anahtar Kelimeler: Mobil öğrenme, Mobil uygulamalar, kelime defteri, İngilizce kelime bilgisi başarısı.

To my mom, Ayşe Zengin

and

my dad, Erol Zengin

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LIST OF ABBREVIATIONS

CALL	Computer-Assisted-Language-Learning
MALL	Mobile-Assisted-Language-Learning
SES	Socio Economic Status
ELT	English Language Teaching
PDA _s	Personal Digital Assistants
VLS	Vocabulary Learning Strategies
DET	Determination Strategies
SOC	Social Strategies
COG	Cognitive Strategies
MEM	Memory Strategies
MET	Metacognitive Strategies
L1	First Language
STM	Short Term Memory
LTM	Long Term Memory
SMS	Short Messaging System
FRAME	The Framework for the National Analysis of Mobile Education
CEFR	Common European Framework
BUSEL	Bilkent University School of English Language

CHAPTER 1

INTRODUCTION

1.1. Background of the Study

In recent years, developments in technology have started to affect almost every part of our daily lives, and in education they have started to profoundly affect teaching and learning. Especially in the last decades, teachers have integrated technology into teaching and learning process through computers and the web programs in order to add variety to teaching and improve student motivation. Nowadays, considering the profile of the students in this century, technology should be utilized by teachers more than ever as the students in this century are somehow technology and internet addicts. Technological devices like computers and especially smart phones are parts of their daily life style. Regarding their habits, learning can be shaped according to students' life styles and thus the quality of learning and teaching can be increased by meeting students' needs. To this end, first Computer-Assisted Language Learning (CALL) has emerged as one of the fastest growing trends in today's education (Weinstein & Palmer, 2002). The integration of technology affected the language learning positively by offering various activities which can be done inside or outside class in each skill. For example, with the help of using blogs or wikis, students could practice writing through online tools. Moreover, students could receive online tutorials outside class from their teachers using some online tools like Skype. Apart from integration of such online tools, some educational games have been integrated into curriculum to encourage foreign language learning, which has resulted in game-based learning. In addition to such increased uses of technology, the widespread use of mobile technologies such as smart phones, Ipads, Ipods, etc has given a rise to a new approach rather than CALL, which is Mobile-Assisted Language Learning (MALL).

MALL is an approach encouraging the idea that learning is enhanced through mobile devices and it is the integration of mobile learning and CALL. Furthermore, MALL indicates the systematic way of the application of mobile learning. Mobile learning is a mode of learning which takes places using content assisted by mobile devices such as mobile phones, smart phones, Ipads or tables, and other portable devices.

Mobile learning has the potential to increase the opportunities to make teaching and learning available beyond the traditional classroom as Li (2008) states “it focuses on the mobility of the learning practice, and emphasizes the interaction between the learner and the learning content, peers or the instructors which can improve effectiveness, flexibility and convenience of learning” (p.694).

Vocabulary learning has a key role in language learning as vocabulary is what is required for reading, listening, speaking and writing. As Wilkins (1972) claimed, “without grammar very little can be conveyed, without vocabulary nothing at all can be conveyed” (p.111). Moreover, Harmer (1994) also put forward, “If language structures make up the skeleton of language, then it is vocabulary that provides the vital organs and the flesh” (p.153). Having necessary vocabulary knowledge is the basis for effective language learning. Because of this fact, learners feel that they have difficulties in language learning either receptively or productively, which results from the insufficient vocabulary knowledge (Nation, 1990). Receptive learning is recognizing a word when it is required. Productive learning is using the necessary words in speaking or writing when needed.

Vocabulary learning happens through either incidental learning or explicit teaching which is also called as “Direct Instruction”. Incidental learning refers to learning from experiences which do not have any intention to promote learning (Sleight, 1994). In this kind of learning, the learner is not aware of the learning process as learning doesn’t happen systematically. However, explicit teaching is related to memorizing the words until the learners get the meanings (Koren, 1999). In explicit teaching, vocabulary is taught systematically and thus it is learned “intentionally”.

Apart from incidental learning or explicit teaching, learners study vocabulary through context or using a dictionary. When vocabulary is taught with the help of the

context, vocabulary learning can occur naturally. Thus, teachers should encourage learners to study vocabulary through extensive reading. Moreover, use of monolingual or bilingual dictionaries depending on students level are also of great importance to vocabulary learning process because according to McKeown (1993), dictionaries are the only available source or tool to help learner study the vocabulary on their own, without any help of teachers or peers, which suggests autonomous learning.

Despite its vital importance in language learning, studying vocabulary has been neglected in English Language learning and teaching. Similarly, vocabulary has the little attention compared to other language skills in class and outside class study. Actually, vocabulary is the key component in language learning for all skills. However, with the help of technology integration, there are some attempts for increasing the importance of vocabulary study.

Vocabulary is generally taught traditionally in foreign language classrooms. The term “traditionally” refers to teaching through direct instruction mostly rather than through context or incidental learning. As each individual learner has different vocabulary learning potential, considering individual differences vocabulary teaching methodology should vary as well. However, teachers try to use a common approach while teaching vocabulary, which also reduces the vocabulary learning success of students in foreign language learning classrooms.

As for the students, studying vocabulary in class is not enough. According to Koren (1999), in-class activities are not enough for effective learning and practice activities should continue outside the classroom. Therefore, they need to have outside class study habits to practice vocabulary better. With the advent of technology, especially MALL (Mobile Assisted Language Learning), students will have more chances to practice vocabulary thanks to the mobility of learning since mobile learning has the potential to increase the opportunities to study vocabulary beyond the traditional classroom as Thornton and Houser (2005) claim mobile phones can provide increased opportunities for learning meaningfully. Mobile learning also helps to facilitate transferring the knowledge and content in a learner-based atmosphere (Nedungadi, 2012).

1.2. Purpose of the Study

This study aims to find out the differences in vocabulary achievement level of students in keeping mobile-based and paper-based vocabulary notebooks in English language learning. The related research questions are stated below:

1. What is the difference between the vocabulary achievement of students keeping mobile-based and paper-based vocabulary notebooks?
2. What are the perceptions of students on the use of mobile-based vocabulary notebooks?"

The study was designed according to pre-post control group quasi-experimental design and it tried to explore the effects of keeping mobile-based vocabulary notebooks on vocabulary achievement in English by comparing two groups, one of which used use paper-based and the other one used mobile-based vocabulary notebooks.

1.3. Significance of the Study

Vocabulary learning has been given little importance although it is one of the significant components of language learning. As Nation (2001) claim, attaining the mastery of all word knowledge is somehow impossible. To this end, vocabulary learning is encouraged to be improved through some strategies such as recycling and vocabulary notebooks. With the integration of technology into language learning process, in the last decades, it can be seen that there are many studies having attempted to integrate mobile learning into vocabulary learning; however, many researches on mobile learning focuses on the use of SMS while studying vocabulary and there is little research showing the role, effects and implications of using mobile applications via smart phones on English vocabulary achievement. Moreover, there isn't any research showing the differences of using mobile-based and paper-based vocabulary notebooks yet. To address this issue, this study examines the differences of using mobile-based and paper-based vocabulary notebooks on students' vocabulary achievement level in English language learning. To me, this study might

be beneficial by filling a genuine gap in the literature related to vocabulary notebook implementation through mobile applications in ELT.

1.4. Definitions of Terms

The constitutive and operational definitions of the variables and some key words related to this study are given below:

Mobile Devices: A mobile device is small and unobtrusive so that it can be carried with us everywhere (Trifanova, Knapp, Ronchetti and Gamper, 2004). The examples of mobile devices are mobile phones, smart phones, Ipad, tablets, personal digital assistants (PDAs), personal digital media players (iPods, etc). In this study, the mobile device is smartphone.

Mobile applications: The programs used for mobile devices such as Ipad, tablets, etc are called mobile applications. If students use online programs on computer, they are called web-based tools. However, mobile applications are the tools used in mobile devices. In this study, as a mobile application Quizlet is used.

Mobile Learning: It is a mode of learning which takes places using content assisted by mobile devices such as mobile phones, smart phones, Ipad or tables, and other portable devices

Mobility of Learning: In mobile learning, learners use some mobile devices across a range of real-world contexts to access information needed at that moment. In this process, as students record what they study in these devices, they carry the information or the learning process wherever they go. This is mobility of learning.

Vocabulary notebook: A personal dictionary including different kinds of word knowledge for each word, and it enables the extensive revision of vocabulary (Schmitt, 1995).

Students achievement: It is the act of students' finishing or accomplishing the task or a lesson. It is related to students' success in a lesson and the grades or scores students get in tasks. In this study, students' vocabulary achievement through pre-post tests is analyzed.

Short-term memory: When we receive information first, it remains in short-term memory for a moment. It should be practiced further not to be lost or forgotten.

Long-term memory: . If the information in the short-term memory is practiced regularly, then it is sent to long-term memory to be stored, through "rehearsal". Long-term memory has unlimited capacity, and includes organized schemas in order (Galitz, 2002).

Vocabulary learning strategies: Vocabulary learning strategies (VLS) which might affect the acquisition of the language. Learners use vocabulary learning strategies to understand the meaning of the unknown words, keep them in the long term memory and also produce them in oral and written forms when needed (Catalan, 2003). In this study, as a vocabulary learning strategy, vocabulary notebook is used.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter presents a review of the relevant literature to this study which tries to explore the differences of using mobile- based and paper-based vocabulary notebooks on students' vocabulary achievement and also seeks to find out the students' perceptions on the use of mobile-based vocabulary notebook. This chapter focuses on the vocabulary learning in a foreign language, teaching and learning approaches to vocabulary learning, keeping vocabulary notebooks as a vocabulary learning strategy and integration of mobile devices into language learning by providing a framework and explaining the underlying theories of mobile learning.

2.1. Vocabulary Learning in a Foreign Language

Vocabulary learning has a key role in language learning as vocabulary is what is required for reading, listening, speaking and writing. As Wilkins (1972) claimed, "without grammar very little can be conveyed, without vocabulary nothing at all can be conveyed" (p.111). Moreover, Harmer (1994) also put forward, "If language structures make up the skeleton of language, then it is vocabulary that provides the vital organs and the flesh" (p.153). Having necessary vocabulary knowledge is the basis for effective language learning. In effective vocabulary learning, learners need to put a conscious effort to the vocabulary learning process as knowing a word involves understanding the different aspects of vocabulary. Learners should be aware of the grammatical knowledge, semantic category, spelling, pronunciation and stress of the target words so that they can say they "know the word", which makes the process complicated for the learners. To this end, learners feel that the difficulties they come across in language learning either receptively or productively result from the insufficient vocabulary knowledge (Nation, 1990).

At this point, the clear distinction between the receptive and productive learning should be made. Receptive learning is recognizing a word when it is required. Productive learning is using the necessary words in speaking or writing when

needed. Therefore, if learners should learn the language at all language skills, they need to cover around 3000 basic words productively in addition to a larger receptive vocabulary (Nation, 1990).

2.1.1. Receptive and Productive Vocabulary

In language learning process, different kinds of vocabulary knowledge is necessary for different language skills. For example, while reading or listening, recognizing a word is enough but while speaking and writing, a word should be comprehended and produced with its appropriate pronunciation, etc.

Receptive vocabulary is “perceiving the form of a word while reading, listening and retrieving its meaning” (Nation, 2004). However, productive vocabulary is expressing the meaning by producing the appropriate written or spoken form of the word (Nation, 2004). The difference between the receptive and productive vocabulary is regarded as being “passive” and “productive” vocabulary by Meara(1990). Passive vocabulary is activated by seeing or hearing the forms of the words but active vocabulary is activated through linking to other words (Nation, 2004).

As Nation (1990) stated, knowing a word productively is slightly difficult than knowing receptively as receptive vocabulary can grow faster. Thus, language teachers should focus on productive and receptive vocabulary together while teaching vocabulary so that learners should employ both vocabularies in the target language.

2.2. Teaching and Learning Approaches to Vocabulary

2.2.1. Incidental Learning and Explicit Teaching

Vocabulary learning happens through either incidental learning or explicit teaching which is also called as “Direct Instruction”. Incidental learning refers to learning from experiences which do not have any intention to promote learning (Sleight, 1994). In this kind of learning, the learner is not aware of the learning process as learning doesn’t happen systematically. However, explicit teaching is related to memorizing the words until the learners get the meanings (Koren, 1999).

In explicit teaching, vocabulary is taught systematically and thus it is learned “intentionally”.

Incidental vocabulary learning consists of learning from context or extensive reading, but explicit teaching includes learning the vocabulary with their definitions, translations or in isolated sentences (Nation, 1990). Krashen (1989) noted that words are acquired better when comprehensible input is received. Furthermore, Dollerup, Glahn, and Hansen (1989) reported reading helps learners to understand the words they don't know by enabling them to learn different aspects of the words. However, some studies suggest explicit teaching is much better if the learning takes place in a short time. For instance, De la Fuente (2006) explored the effects of different lesson types on vocabulary learning, and the results showed that the lessons having a focus on the form of the words is very effective for vocabulary learning.

2.2.2. Learning through Context

Vocabulary is generally taught in context for speaking or writing skills as words naturally occur in context. The context helps learners to convey the meaning better by providing some clues around the target words. When learners know nearly 3000 words, they may use lexical inferencing by guessing the meanings from the context in order to understand the meanings of unknown words. Guessing meaning from the context is a key vocabulary learning strategy to deal with low frequency vocabulary (Nation, 1990).

Although some learners do without receiving any trainings, some others should be made aware of a strategy to guess the meanings of unknown words in a text so that they can realize the clues given better. As McCarthy (1990) claimed, words are learned and remembered best if they are presented in a meaningful context. Therefore, extensive reading plays a crucial role in extending vocabulary knowledge through context. When learners study the words in natural environment, they become more aware of the different aspects of vocabulary like its word formation, its collocations, etc, which fosters productive vocabulary. According to Krashen (1989), students learn all the vocabulary they need in context through extensive reading. Therefore, teachers should emphasize the importance of reading to

extend vocabulary knowledge and teach vocabulary in context so that vocabulary learning can occur naturally.

There are some points to be considered in order to increase the success of guessing meaning from the context. The foremost important point is the percentage of the unknown words in the text, which also determines the difficulty of the text. If the number of the unknown words is high, learners have difficulty to catch the clues which help the learners convey the meaning of an unknown word better. The other factors that increase the success of this strategy are :

1. The context should offer enough clues as for the content
2. Learners use local clues while guessing the meaning better than the global clues
3. Cognates which are the words having the same linguistic derivations in another language help learners to guess the meaning better
4. Learners should have enough background knowledge about the content so that they can guess the meaning effectively
5. Learners should be either skilled enough or trained in guessing

(Richards& Renandya, 2002, p.153)

2.2.3. Using Dictionaries

Using a dictionary in vocabulary learning is one of the keys to foreign language learning. According to McKeown (1993), dictionaries are the only available source or tool to help learner study the vocabulary on their own, without any help of teachers or peers. While learning a second language, learners attempt to use dictionaries to find out either the meaning of the unknown words or the equivalent of the target words in their native language, which is generally encouraged by teachers. However, Nagy (1988) opposed to this idea by claiming the dictionary meaning does not result in successful vocabulary knowledge or enough information to word use. As for dictionary types, learners are generally encouraged to use monolingual dictionaries although many learners prefer using bilingual dictionaries more extensively (Tomaszczyk, 1997). Hence, instead of being dictated,

learners should have the freedom to use bilingual or monolingual dictionaries, depending on their needs and learning styles.

2.3. Vocabulary Learning Strategies

In order to facilitate vocabulary learning, learners employ some vocabulary learning strategies (VLS) which might affect the acquisition of the language. Catalan (2003) claim that learners use vocabulary learning strategies to understand the meaning of the unknown words, keep them in the long term memory and also produce them in oral and written forms when needed.

According to Schmitt's taxonomy for vocabulary learning strategies (1997), VLS are grouped in two main categories which are discovery and consolidation strategies. Discovery strategies are employed when learners come across a word for the first time. As the name of the group suggests, learners try to discover the meaning of the unknown words. The sub-strategies which might be classified under discovery strategies are determination and social strategies.

Determination strategies (DET) are done through using previous existing knowledge to understand the meaning. The examples may be guessing from the context or using reference materials (Richards & Renandya, 2002). Social Strategies (SOC) includes interacting with other people in language learning (Richard & Renandya, 2002). The examples are asking the meaning of an unknown word to the teacher or a friend.

The consolidation strategies are used to remember a new word when learners are introduced to (Schmitt, 1997). As understood from the name, such strategies are employed to practice the words further, which will be useful for future use. The strategies which can be grouped under consolidation strategies are social, memory, cognitive and metacognitive strategies. Social strategies (SOC) are also in this group as learners can also use these strategies to consolidate the target words. Memory strategies (MEM) include associating the meaning of a word with the prior knowledge such as using semantic maps or imaging word form (Schmitt, 1997). Some mental processing is used to foster long-term retention using MEM (Richards & Renandya, 2002).

Cognitive Strategies (COG) involve controlling or transforming the language. They are different than MEM in that COG focus on controlling the mental processing (Richards, 2002). Verbal/ written repetition and keeping vocabulary notebooks are some examples that can be given in this category. The final strategies are metacognitive strategies (MET) which include overviewing the learning process consciously through planning or monitoring (Richards & Renandya, 2002). Some examples of these strategies are skipping new words or studying words over time (Schmitt, 1997). In this study, I will help learners improve their vocabulary knowledge through keeping vocabulary notebooks, which is an example of Cognitive strategies.

2.3.1. Vocabulary Notebook

Vocabulary notebook is a dictionary generated by the learners by recording the words that they have learned with different aspects of word knowledge (Schmitt & Schmitt, 1995).

Keeping vocabulary notebooks is one useful way to benefit consolidation vocabulary learning strategies which are memory, social, metacognitive and cognitive strategies in vocabulary learning since it enables learners to revise each word and in this way activate the vocabulary they meet (Lewis, 2000). There are different aspects of vocabulary to be included in a vocabulary notebook such as other word forms, antonyms and synonyms of the target words. Schmitt (1995) suggests vocabulary notebooks should consist of part of speech, collocations, definition, example sentences, first language (L1) translation and keyword illustration. Vocabulary notebooks are useful for teachers as they help teachers to check their students' progress (Nation, 1990). Moreover, vocabulary notebooks encourage learners to be responsible for their own learning (Fowle, 2002), which facilitates autonomous learning.

Keeping vocabulary notebooks enable learners to recycle vocabulary they have just learned. For example, with the help of the vocabulary notebooks, learners record the unknown words with their different aspects in addition to their meanings, which can be revisited in the future. As Knight (2004) suggests, learners use a

dictionary to check the meaning of an unknown word. Likewise they keep vocabulary notebooks. However, vocabulary notebooks are different than dictionaries in that learners create their own dictionaries involving the words they do not know, which can be checked again in the future.

While keeping vocabulary notebooks, learners also have a chance to extend the rehearsal (Schmitt & Schmitt, 1995). When students revisit their vocabulary notebooks, they further practice the unknown words in time; as a result of which some words might even be cleared out or replaced with the new ones.

There are some studies conducted on the effectiveness of vocabulary notebooks. Leeke and Shaw (2000) examined the role of the word lists that foreign language learners use on preparing their own vocabulary notebooks in different countries.

The results showed that by using their word lists, the learners only included the translations and rare synonym or any example sentences related to the target words. To build on this study, Walters and Bozkurt (2009) conducted an empirical study on the effectiveness of the use of vocabulary notebooks in the classroom, the results of indicated that about 40% of words are learned receptively and 33% productively when vocabulary notebooks are kept by learners.

2.3.2. How to Design a Vocabulary Notebook

Schmitt & Schmitt (1995; 134-137) outlined the eleven principles underlying how to keep effective vocabulary notebooks:

1. New words may be remembered best if they are linked to the prior knowledge
2. Things are learner effectively if they are organized better
3. Similar words should not be taught at the same time
4. Words paired together might be used to learn a lot of words in a very short time
5. Knowing a word is more than knowing its meaning
6. If a deeper mental processing is used while learning a word, a learner will have a more chance to remember it in the future

7. The way a word is recalled shows the likelihood that a learner will remember it again
8. Learners must be aware of their own learning process to learn effectively
9. Words should be recycled
10. Expanding rehearsal is one of the effective recycling methods
11. Learners have different individual learning styles.

Apart from the principles mentioned above, some vocabulary strategies are also employed while keeping vocabulary notebooks. To exemplify, learners use some determination strategies to discover the meaning of unknown words like guessing meaning from the context. Besides, learners use some consolidation strategies as Fowle (2002) suggests. For instance, teachers may check students' vocabulary notebooks, which is an example of social strategies. Moreover, learners add some information regarding the synonyms and antonyms of the unknown words, which is an example of memory strategies. As can be seen, although keeping vocabulary notebook is an example of cognitive strategies, the implementation involves a variety of different VLS.

2.3.3. Benefits of Vocabulary Notebooks

- Teacher have an opportunity to check students' progress in vocabulary learning (Fowle, 2002).
- Vocabulary notebook activities help learners improve their ability to use new words in sentences and semantic maps in addition to associating words with their antonyms or synonyms.
- Keeping vocabulary notebooks encourages autonomous learning as learners become more aware of their own learning process (Schmitt & Schmitt, 1995).
- As learners have a chance to organize their vocabulary notebooks according to their likes and preferences and also remove some words that they believe they have learned, in the future, they personalize their own learning efficiently (Fowle, 2002); as a result of which they can evaluate their own learning progress.

2.4. Integration of Mobile Devices into Language Learning

2.4.1. Mobile Devices

There are different definitions of “mobile” in literature. According to O’Connell and Smith (2007) a mobile device has an object which is at pocket size with a small screen and without a keyboard. Trifanova, Knapp, Ronchetti and Gamper (2004) defined a mobile device as being small and unobtrusive so that it can be carried with us everywhere. The examples of mobile devices are mobile phones, smart phones, Ipads, tablets, personal digital assistants (PDAs), personal digital media players (iPods, etc).

Mobile devices help us organize our lives better with their functions. For instance, we can easily contact our friends by sending short messages (SMS) or through using some applications that smart phones offer like “whatsapp”. Furthermore, we can do our to do lists with the help of our smart phones or tablets, Ipads, etc. As mobile devices offer the features like mobility, localization, they have eased our lives through their convenience and accessibility. Thus, they provide us with the tools and resources which are available anytime, anywhere and which can enhance learning (Diaz & Carrion, 2015).

2.4.2. Mobile Learning

The recent developments in technology have already started to profoundly affect teaching and learning. Teachers have integrated technology into teaching and learning process through computers and the web programs so as to add variety to teaching and improve student motivation. Therefore, Computer Assisted Language Learning (CALL) has emerged as one of the fastest growing trends in today’s education (Weinstein & Palmer, 2002). Computer Assisted Language Learning (CALL) is a process in which the learners use a computer, in a broader sense. The materials for CALL are prepared on purpose for language learning and are adapted by computer-based materials or videos (Beatty, 2003).

CALL facilitates the idea that learning should take place everywhere whenever a learner needs, as a result of which MALL (Mobile Assisted Language Learning) has emerged. MALL is an approach to language learning which is enhanced through the use of mobile devices like mobile/smart phones, tablets, etc, which facilitates mobile learning. Li (2008) states “It focuses on the mobility of the learning practice, and emphasizes the interaction between the learner and learning content, peers or the instructors which can improve effectiveness, flexibility and convenience of learning” (p.694).

Mobile learning enables learning to become mobile rather than the technology itself. Mobile learning has many advantages like permanency, accessibility, interactivity and personalization, which offer the learners study outside class. As Koole (2009) put forward wireless mobile devices may help to occur culturally sensitive learning experiences and to deal with increasing information in the world. Mobile learning also helps to facilitate transferring the knowledge and content in a learner-based atmosphere (Nedungadi, 2012).

2.4.3. The FRAME Model for Mobile Learning

The Framework for the Rational Analysis of Mobile Education (FRAME) model provides some ideas on how to design materials and tasks by implementing mobile learning effectively. The FRAME model presents a mode of learning in which learning can move into physically and virtually different places by enabling learners interact with other people or information every where and every time (Koole, 2009). The FRAME model considers the technical features of mobile devices together with social and personal aspects of learning (Koole, 2006). Moreover, this model tries to show the principles behind mobile learning as in psychology like Activity Theory or Vygotsky’s (1978) study on *mediation* and *zone of proximal development* (Koole, 2009). This model also focuses on constructivism in terms of claiming reason is the main source of knowledge and “reality is constructed instead of being discovered” (Smith and Ragan, 1999).

The FRAME model is displayed by a Venn diagram which is shaped through three aspects:

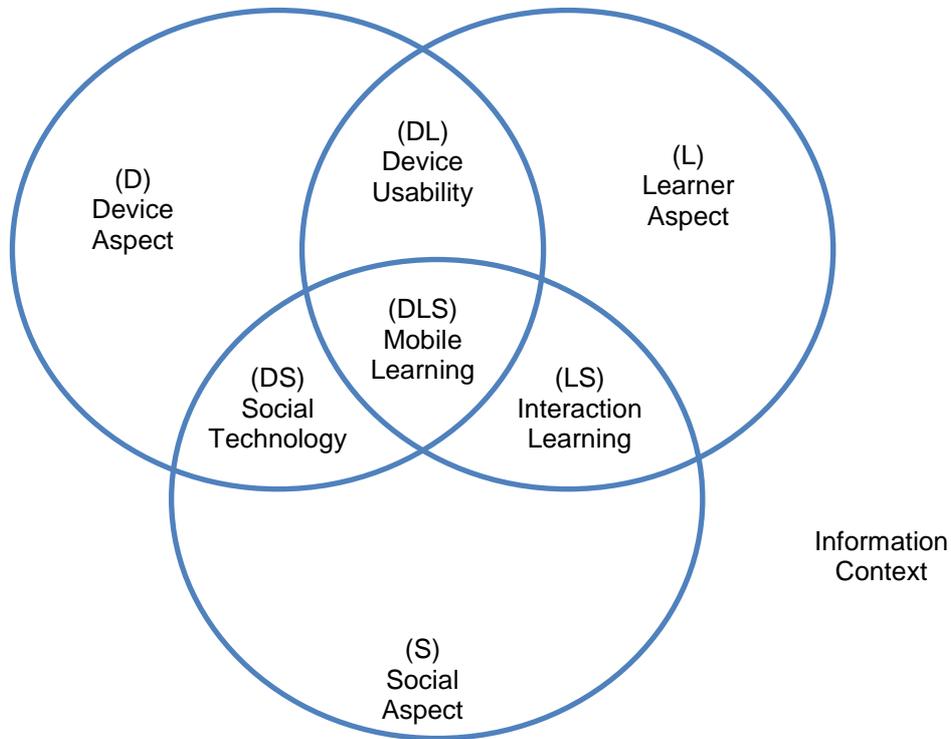


Figure 2.1. *The Frame Model* (Koole, 2009, p.27)

The three circles in this diagram are device (D), learner (L) and social (S) aspects. When two circles overlap, the intersections occur, which belong to both aspects. In this diagram, the device usability (DL) and social technology (DS) refer to affordances of mobile technology (Norman, 1999). Interaction learning (LS) focuses on instructional and learning theories through social constructivism. The centre of this diagram is mobile learning (DLS) which shows the ideal mobile learning (Koole, 2009).

Aspects in Venn Diagram

Device Aspect (D)

The device aspect shows the physical, technical and functional features of a mobile device. The physical features are input and output capabilities in addition to storage capabilities, processor speed and compatibility (Koole, 2009). The hardware and software design of the mobile devices affects the users' performance in terms of physical and psychological levels. For example, the characteristics of a portable mobile device should match with the capabilities of individual users. Furthermore, input and output capabilities of the device should appeal to human perception and motor functions (Koole, 2009).

Learner Aspect (L)

The learner aspect deals with the learners' cognitive abilities, background knowledge, memory and motivations and tries to underpin how learners use their prior knowledge while encoding, storing and transferring information. Mobile learning helps learners to improve these cognitive processes in learning (Koole, 2009).

Social Aspect (S)

The social aspect is concerned with the social interaction and cooperation. Learners communicate by exchanging information with others. In this process, the rules of cooperation are defined in a place where the interaction occurs either physically or virtually (Koole, 2009).

Intersections in Venn Diagram

Device Usability Intersection (DL)

The device usability intersection includes both the device and learner aspects. It shows the effects of the mobile devices on cognitive tasks in mobile learning (Koole, 2009). The relationship between the portability of a mobile device and accessing the information has vital importance in mobile learning as thanks to portability learners reach information anywhere and anytime.

Social Technology Intersection (DS)

The social technology intersection tries to explain how mobile devices encourage communication collaboration among users. It largely focuses on exchanging information and collaboration among people while using such devices.

Interaction Learning Intersection (LS)

The interaction learning intersection synthesizes the learning and instructional theories with a focus on social constructivism. While doing this, LS considers the learners' needs and their capabilities through combining context and social negotiation of meaning as in Vygotsky's (1978) zone of proximal development (Koole, 2009).

Mobile Learning Process (DLS)

The balanced integration of the aspects and the intersections results in effective mobile learning according to FRAME model. Effective mobile learning enables learners to access information through collaboration. Moreover, learners may interact with their instructors, friends and the materials in a better cognitive environment through effective mobile learning (Koole, 2009). The mobile learning process is summarized in table 1.

Table 2.1

Mobile Learning Process (Koole, 2009, p.39)

Criteria	Examples & Concepts	Comments
Mediation	Task artifact cycle (Caroll, Kellogg, and Rosson, 1991) Mediation (Vygotsky, 1978)	The nature of the interaction itself changes as learners interact with each other, their environments, tools and information
Information Access and Selection	Information noise, identification of patterns and relationships, relevancy and accuracy	As the amount of information available increases, learners must increase their efforts to recognize and evaluate the appropriateness and accuracy of information
Knowledge Navigation	Knowledge production vs. knowledge navigation (Brown, 2005)	In knowledge production, teachers determine what and how information should be learned. In knowledge navigation, learners acquire skills to appropriately select, manipulate, and apply information to their own unique situations and needs

According to this table, the three important components of mobile learning process are mediation, information access and selection and knowledge navigation. In this process, mediation refers to the interaction that changes depending on the individuals and the devices as the interaction between the device, learner and the social aspects changes continuously. This point is directly related to Vygotsky's (1978) zone of proximal development which claims learners interact with each other, information, context and the tools in a course.

As for information access and selection, in mobile learning process learners should put more effort into evaluating the increasing information (Vygotsky, 1978). In terms of knowledge navigation, teachers have more active roles as they decide on what information and how it should be taught (Brown, 2005).

2.4.4. The Underlying Theories of Mobile Learning

Mobile learning can be explained by five main theories which are behaviorism, cognitivism, zone of proximal development, social learning theory, and the law of effect. In this section, some insights about these theories will be given.

Cognitivist Theories

Cognitivist theories of learning claim that linguistic information is processed verbally and visually (Jones, 2004; Mayer, 1979, 2005; Paivio, 1986). To this end, Atkinson & Shiffrin (1968) proposed the multi-store model of cognitive processing theories. According to this model, there are three types of memory, which are Sensory, Short-term (STM) and Long-term memory (LTM).

Cognitive theories assert that people process verbal and visual stimuli in dual channels and these channels process only a small amount of information at one time (Fageeh, 2013), which is also called as "Dual Coding Theory", a part of cognitive theory. Dual coding theory encourages the idea that learning is reinforced when complementary information is processed in two channels instead of one channel (Mayer, & Moreno, 2002). According to dual coding theory, the verbal and nonverbal systems might be used separately by interacting during encoding and retrieval of information. As for the principles that this theory proposes for mobile learning, multimedia might improve learning process through simulation, animation,

video, audio, and pictures. This theory suggests that when oral or written instructions are combined with pictures, the learning process and working memory will become more efficient (Kalyuga, Chandler, & Sweller, 1999).

The second theory grouped under cognitivist theories is cognitive load theory, which implies that the materials should be designed to minimize the cognitive load of the learners during the learning process (Mayer, 2005). As the capacity of working memory is limited, if the materials are very complex, the cognitive load will increase, which will decrease the performance (Sweller, 1988). According to this theory, when any information is received, it is first stored in short-term memory. If this information is practiced regularly, then it will be sent to long-term memory to be stored, through “rehearsal”. The important fact is this information should be “retrieved” into the short-term memory so as to be used again.

As for the principles that this theory suggests for mobile learning, the cognitive load theory also claims that things should be kept simple in design process, which may help to transfer information from short-term memory to long-term memory (Sweller, van Merriënboer, & Paas, 1998). Learners should be encouraged to practice the target information in short periods but regularly in order to store the information in long-term memory so that it will not be lost. For instance, in this study, learners are expected to keep vocabulary notebook by entering 20 words each week, which is appropriate for the capacity of working memory. Every week they add a new set of “20 words” and have a chance to practice these words with the activities the application offers, which helps learners to rehearse the information regularly.

2.4.5. Research Studies on the Integration of Mobile Learning into Vocabulary Learning

Many studies on the integration of mobile learning into vocabulary learning have been conducted to examine the effects of mobile learning in English language teaching and learning. The studies in United Kingdom, Sweden and United States indicate mobile technology have positive effects as a result of its portability, low cost and practicality (Houser, Thornton and Kluge, 2002). Levy and Kennedy (2005) conducted a study with Italian learners in Australia, which focused on sending

vocabulary words and idioms, definitions, and example sentences via SMS in a scheduled pattern. The aim of this study was to find out the best times and scheduling of message delivery. The participants were also asked to send their feedback in the form of quizzes and follow up questions. The results showed the best times for message delivery are between 9 a.m. and 10 a.m. and two messages a day is the best number to be sent every day.

Saran, Çağıltay and Seferoğlu (2008) conducted a study on supporting foreign language vocabulary learning through sending multimedia messages via mobile phones. The participants were chosen at two different levels, which are elementary and pre-intermediate. This study was conducted in two phases. In the first phase, students were provided with target vocabulary in two groups: printed and mobile. In the second phase, students were grouped in three as printed, mobile and web. The printed groups received the target words and quizzes in paper form, the mobile group via SMS on mobile phone and web group in online web-based form. The results of this study revealed that students were positive to use the instructional materials in their mobile phones.

Song (2008) worked on the hybrid use of SMS and the web in the vocabulary learning. The findings showed this mobile technology enhances participants' vocabulary learning. Başoğlu and Akdemir (2010) did a comparative vocabulary learning study with the use of mobile phones and paper flashcards. The results indicate vocabulary learning programs on mobile phones improved students' English vocabulary acquisition. Sariçoban and Özturan (2012) conducted a study on the effects of mobile assisted language learning over students' success and attitudes towards English language learning through SMS, the results of which show students may have enjoyable and effective learning through mobile phones.

As can be seen above, all these studies are on the integration of mobile learning with vocabulary learning. There isn't any study on the integration of mobile learning into vocabulary notebooks specifically.

2.5. Summary

Vocabulary learning is very important in language learning as it is the fundamental requirement to be a competent language users in a foreign language in terms of reading, listening, speaking and writing. Depending on the use, there are two types of vocabulary which are receptive and productive. Knowing a word productively is slightly difficult than knowing receptively as receptive vocabulary can grow faster (Nation, 1990). Thus, language teachers should teach productive and receptive vocabulary together so that learners could use both in the target language. Vocabulary learning can happen by either incidental learning or explicit teaching. The former refers to learning from experiences which do not have any intention to promote learning (Sleight, 1994). The latter is related to memorizing the words until the learners get the meanings (Koren, 1999). In explicit teaching, vocabulary is learned “intentionally”. Learning from context has also a vital importance on vocabulary learning as context helps learners to acquire the target language naturally. Students use some learning strategies while studying vocabulary which are grouped in two main categories: discovery and consolidation strategies (Schmitt, 1997). Discovery strategies are determination and social strategies. Consolidation strategies are social, memory, cognitive and metacognitive strategies.

Keeping vocabulary notebooks is one useful way to benefit consolidation vocabulary learning strategies which are memory, social, metacognitive and cognitive strategies in vocabulary learning since it enables learners to revise each word and in this way activate the vocabulary they meet (Lewis, 2000). The Framework for the Rational Analysis of Mobile Education (FRAME) model provides some ideas on how to design materials and tasks by implementing mobile learning effectively. Furthermore, some insights about main theories such as cognitivism (cognitive load and dual coding), zone of proximal development, social learning theory, and the law of effect to mobile learning are given. Although there are many studies conducted on mobile learning, there isn't any research showing the effect of using mobile applications while keeping vocabulary notebooks yet . Thus, to me, this study will try to fill in this genuine gap in the literature related to vocabulary notebook implementation through mobile applications in ELT.

CHAPTER 3

METHODOLOGY

This chapter presents the information regarding the research questions, design of the study, participants involved in the study, data collection procedures, development of instructional materials, data collection instruments, and data analysis procedures.

3.1. Design of the Study

In this study, pre-post control group quasi-experimental design was used. To answer the first research question of the study, pre-post control group design was used and to answer the second research question of this study, data were collected through semi-structured interviews in order to get in depth information related to using mobile-based vocabulary notebooks. The quasi-experimental research design is conducted if the researchers cannot employ random sampling and random assignment. The main purpose of this study was to investigate the differences in vocabulary achievement level of keeping mobile-based and paper-based vocabulary notebooks in English language learning. The independent variable which is using mobile applications while keeping vocabulary notebooks is manipulated in the experimental group. This study was conducted to two intact classes, which the researcher could access.

Table 3.1
Design of the Study

	Groups	
	Experimental	Control
Pre-test	X	X
Treatment	X	
Post-test	X	X
Interview	X	

3.2. Research Questions

3. What is the difference between the vocabulary achievement of students keeping mobile-based and paper-based vocabulary notebooks?
4. What are the perceptions of students on the use of mobile-based vocabulary notebooks?"

The related hypothesis of this research is:

H0: There is no significant difference between the vocabulary achievement of students keeping mobile-based and paper-based vocabulary notebooks

Thus, in this study, the dependent variable is the vocabulary achievement level of the students and the independent variable is using mobile-based vocabulary notebooks.

3.3. The Context

This study was conducted at Bilkent University School of English Language Preparatory School. Students are learning English for academic reasons as they will study in their departments on the condition that they pass COPE (Certificate of Proficiency in English), which is the proficiency exam of Bilkent University and equivalent to CEFR B2 level. These students are also required to learn English as a

prerequisite to go to their departments as medium of instruction at Bilkent University is English. Once students finish one course they can sit End of Course Assessment (ECA) to pass onto the next level. Each course generally takes 8 weeks. Each course is based on an integrated-skills syllabus and different commercial books are used to cover the course objectives. Students receive from 15 up to 30 contact hours depending on their level. There are generally two or three teachers in each course, who are responsible to teach every skill in English. The students are to attend 90% of the classes throughout the course. In order to be eligible to study in their departments, students must pass COPE at the end of the year.

Vocabulary Teaching and Assessment at Bilkent University School of English Language Preparatory School

Vocabulary is taught through context and vocabulary teaching is integrated into all skills at BUSEL preparatory school. For each level, students are provided with a specific word list which includes all the vocabulary items they are presented with throughout the courses. All the exams or quizzes are based on the word lists given by the institution.

As for teaching, every vocabulary item from the word list is presented with its different aspects like its different word forms or collocations which are the specific word combinations. However, there might be some differences in terms of to what extent to show the other word forms or which words to focus on specifically in the classroom because of teachers. Some teachers might skip some words in the classroom, thinking it is students' responsibility to find out these differences.

Throughout the courses, students' vocabulary is assessed in all the exams and quizzes receptively and productively but it is specifically assessed through quizzes, the number of which changes depending on the levels of the students and formative writing exams. In the exams or quizzes students are provided with fill-in-the-blanks, word formation or matching activities.

3.4. Participants of the Study

The participants of this study are the students who are at B2 level according to the Common European Framework (CEFR) in Bilkent University School of English Language. They all learn English to pass the proficiency exam which will be offered at the end of the semester so that they can be eligible to study in their departments which vary. Their ages range from 18 to 20. The two intact classes whose English levels were the same were chosen according to the accessibility of the participants to the researcher. At B2 level, students receive 20 contact hours from two different teachers. Each class includes 20 students, which enables to analyze the data statistically with non-parametric tests. There are 40 participants totally. In the experimental group the number of males is 11 and the number of females is 9. In the control group, there are 8 male and 12 female students. As the students in each class are at the same English level and placed at this level with an achievement test, students are matched statistically regarding their English level. When the students are assigned to classes in the institution, classes are formed homogeneously in terms of their English level. The first group which continued keeping vocabulary notebooks traditionally paper-based was the control group and the second one which kept vocabulary notebooks through a mobile application named as Quizlet was the experimental group, which was manipulated by using a mobile application. Each class had the same contact hour with the teachers who were the same. Each teacher taught these classes 10 hours in a week. The participants for the semi-structured interviews conducted at the end of the study were chosen from the experimental group in order to get some in-depth information regarding the use of mobile-based vocabulary notebooks. While choosing these five participants some points have been taken into consideration. The first one was whether they kept the mobile-based vocabulary notebooks regularly or not. The second one was the vocabulary achievement level in the post-test. Among the five students selected, two of them had high-vocabulary achievement, two had average vocabulary achievement and one had low vocabulary achievement in the post-test.

3.5. Instruments

In order to gather the data for this study, a vocabulary achievement test and five interview questions were used.

3.5.1. Vocabulary Achievement Test

In this study, 160 words from pre-faculty level (B2 according to Common European Framework) general word list were chosen to be recorded in both paper-based and mobile-based vocabulary notebooks. In order to assess the learners' vocabulary level before and after the treatment, a vocabulary achievement test consisting of 80 items was developed by the researcher. This test was also reviewed by two experts in English language teaching and materials design and two English instructors in terms of the reliability and clarity. In the pilot study, the vocabulary achievement test was conducted to 160 pre-faculty students in the early January of 2015. The results of this pilot study were analyzed by using TAP program, the value for reliability was found .90 according to KR-21, which proved the reliability of this test. This vocabulary achievement test included three task types which were matching with the meaning, filling in the gaps and word-formation. Matching with the meaning and filling in the gaps activities could assess receptive vocabulary knowledge of the learners. Word-formation task type could assess receptive vocabulary and productive vocabulary to a small extent. The vocabulary test was conducted at once by allocating 90 minutes. This test is presented in Appendix A.

3.5.2. Interview Questions

Five interview questions were developed by the researcher to gather qualitative data from the experimental group on the perceptions of mobile-based vocabulary notebooks. The questions were reviewed by two experts in English language teaching and in curriculum and instruction. No changes in the interview schedule was made after the review process. The aim of this interview was to find out learners' general perceptions and ideas about keeping mobile-based vocabulary notebook. Moreover, it was to determine whether the students were pleased with using a mobile application "Quizlet" while keeping vocabulary notebooks and their

suggestions about keeping mobile-based vocabulary notebook. The interview questions are presented in Appendix B.

3.6. Materials

The English words included in this study were chosen from the pre-faculty general word list prepared by the institution, as the use of vocabulary notebook is a part of course assessment system. In this study, two types of instructional materials were used, which are: Quizlet (mobile application) and vocabulary notebooks (paper-based and mobile-based).

3.6.1. Quizlet

Quizlet is an online learning tool which provides students with flashcards and games created by the program itself. It was created by high school sophomore Andrew Sutherland in 2005 and it is used worldwide now. All of the materials in this tool are generated by the users. It has both web and mobile versions. In this study, students created their mobile-based vocabulary notebooks by using the mobile application of “Quizlet”. The application is available for both android and apple and free of charge. Thus, all the participants could have the application free by only downloading it from the Apple Store or Google Play. The interface of the application is user-friendly and students can start using the application by only registering into the system by providing a username and e-mail address.

Apart from the mobility of learning, its most important advantage is the application creates fill-in the gaps or matching activities by using the words recorded in the system by the individuals. Thus, the program provides students with further vocabulary activities created by the words entered by themselves. Moreover, learners can view words as a list or flashcard. If the learners study the words as a flashcard, on one face they see the meaning, synonyms or antonyms but on the other face, when the card is flipped, they see the target words, other word forms and example sentences generated by using the target words.

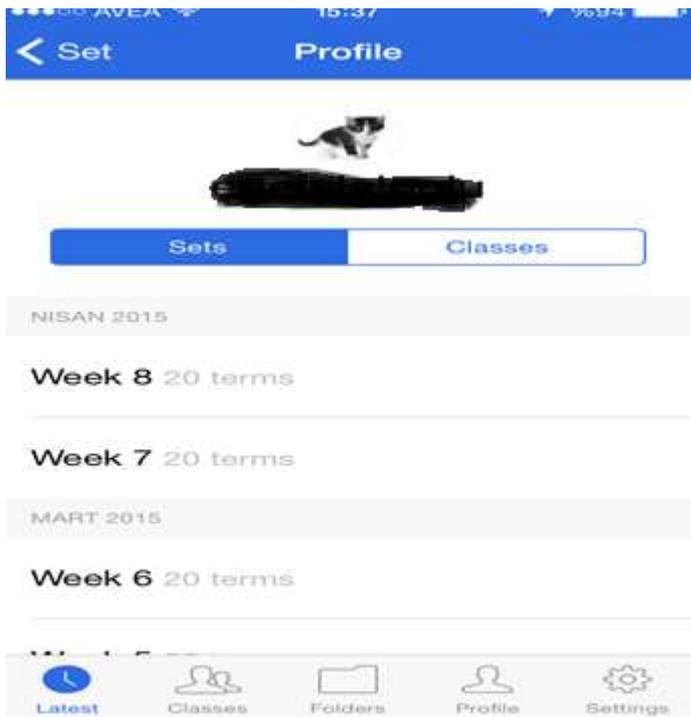


Figure 3.1. The Interface of Quizlet

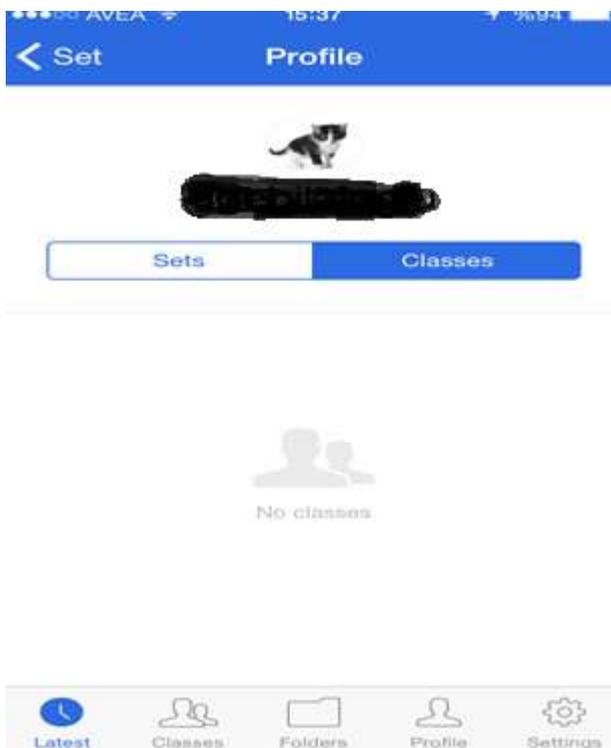


Figure 3.2. The Profile Screen of Quizlet

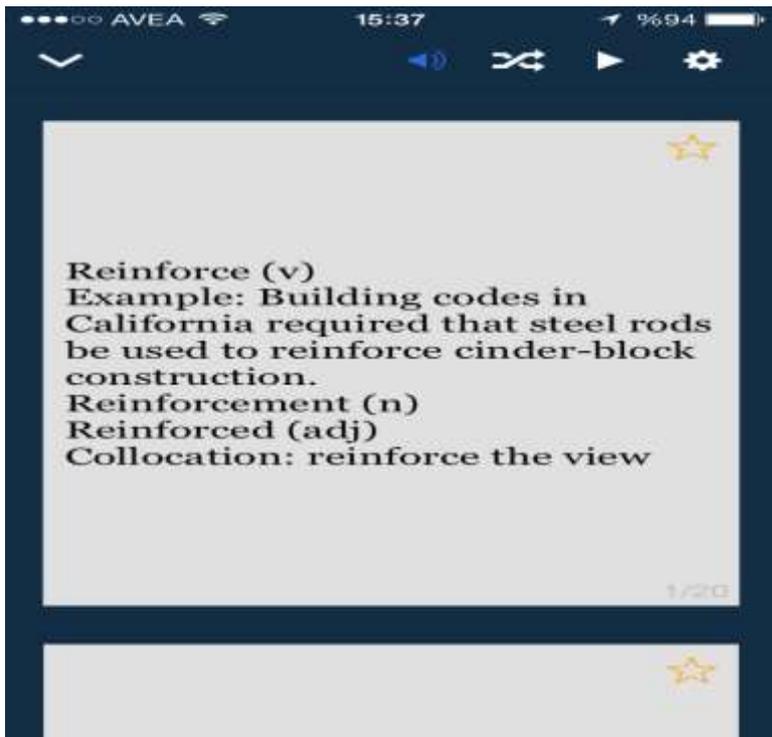


Figure 3.3. Flashcard View of Quizlet

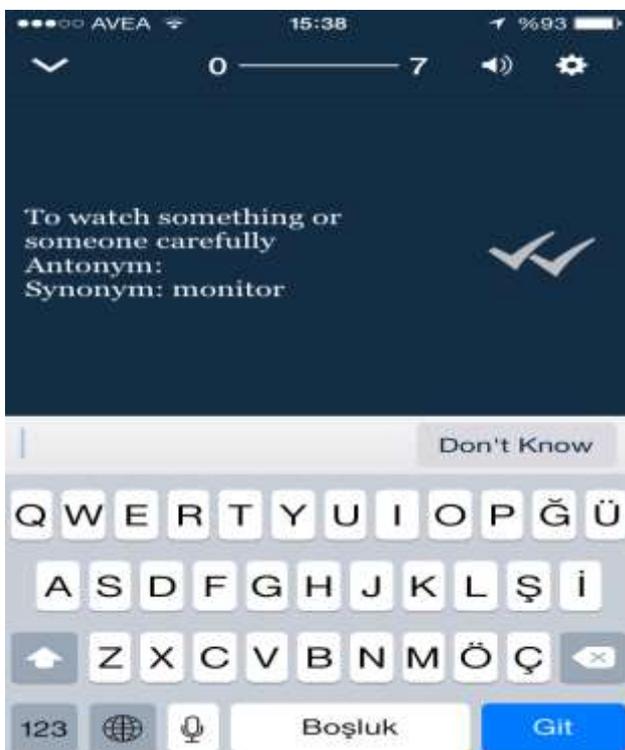


Figure 3.4. Fill in the Gap Activity by Quizlet



Figure 3.5. Matching Activity by Quizlet

3.6.2. Vocabulary Notebooks

The materials used in this study included 2 types of vocabulary notebooks which are paper-based and mobile-based. Vocabulary notebook is a personal dictionary generated by the learners by recording the words that they have learned with different aspects of word knowledge (Schmitt & Schmitt, 1995). In this study, students were provided with 20 words selected from the pre-faculty level general word list created by the institution, each week. The participants were expected to create their own vocabulary notebooks, which is a part of course assessment, either paper-based or mobile-based. In their vocabulary notebooks, they were to add the meaning of the target words in English, other word forms, antonyms, synonyms, collocations and example sentences.

3.6.2.1. Paper-based Vocabulary Notebook

The control group including 20 students kept paper-based vocabulary notebooks. The participants in this study kept their vocabulary notebooks by using a notebook or a pile of papers.

WEEK 1					
Word	Definition	Synonym	Antonym	Other forms	Collocation
1- alter (v)	to change	change, modify, remake, amend	fix, freeze, stabilize	alteration (n) alterable (adj) alterably (adv)	make alterations/ strongly suggesting
We should alter our plans for weekend because of the bad weather.					
2- boost (v)	to increase the power-force of sth	boost, lift, raise, raise	drop, decrease, diminish, sink	boost (n) boosted (adj) boosting (adv)	give (someone) a boost boost to confidence
Students should be boosted by their teacher.					
3- initiate (v)	to make sth begin	start, begin, introduce	close (down), phase out	initiative (n) initiation (n)	initiated into
One of the student in our class initiates all the parties.					
4- indefinite (adj)	not clear in meaning or details	measureless, boundless, immeasurable	definite, limited, restricted	indefiniteness (n) indefinitely (adv)	
Indefinite descriptions are not enough to learn a specific subject.					
5- multiple (adj)	more than one	combined, collective	individual, single, solo	multiple (n)	
Multiple choice test format is the most effective way to measure students.					

Figure. 3.6. Sample Paper-based Vocabulary Notebook

3.6.2.2. Mobile-based Vocabulary Notebook

The experimental group consisting of 20 students created mobile-based vocabulary notebook by using the mobile application “Quizlet”. Students entered pre-determined 20 words into the mobile application every week. The words entered by the learners can be accessed as a list or a flashcard.

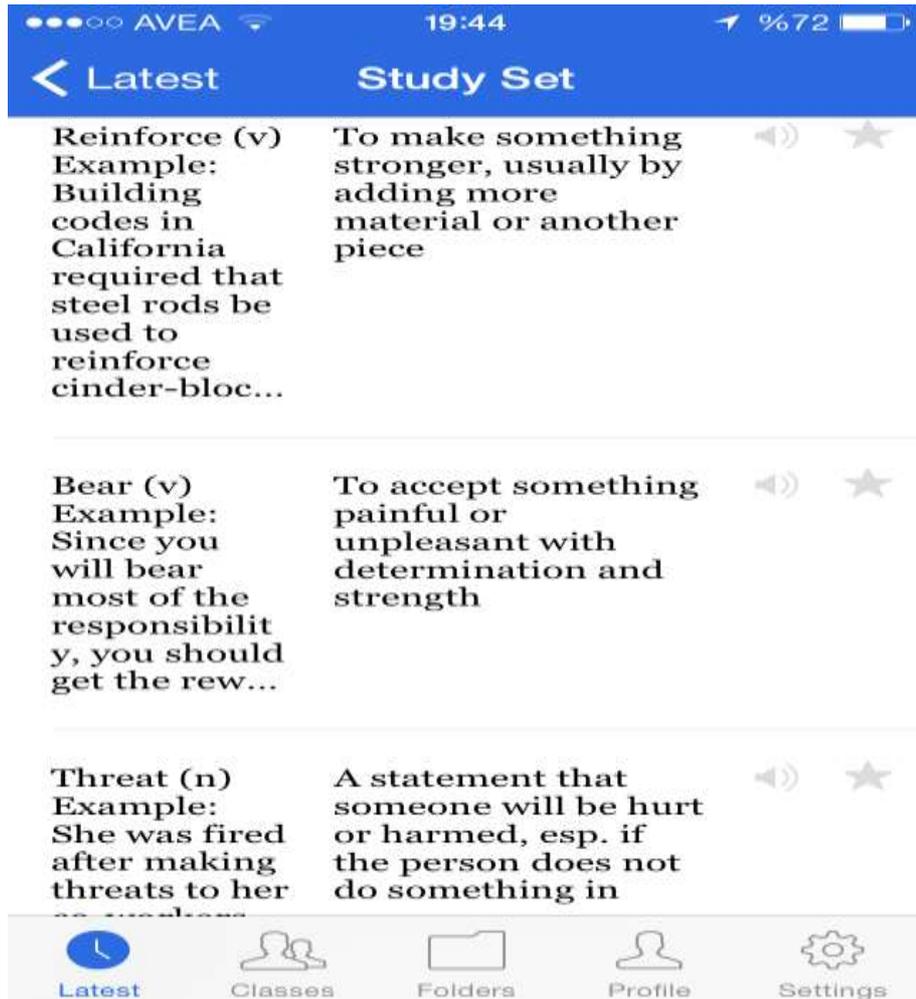


Figure 3.7. The list view of the words in Quizlet

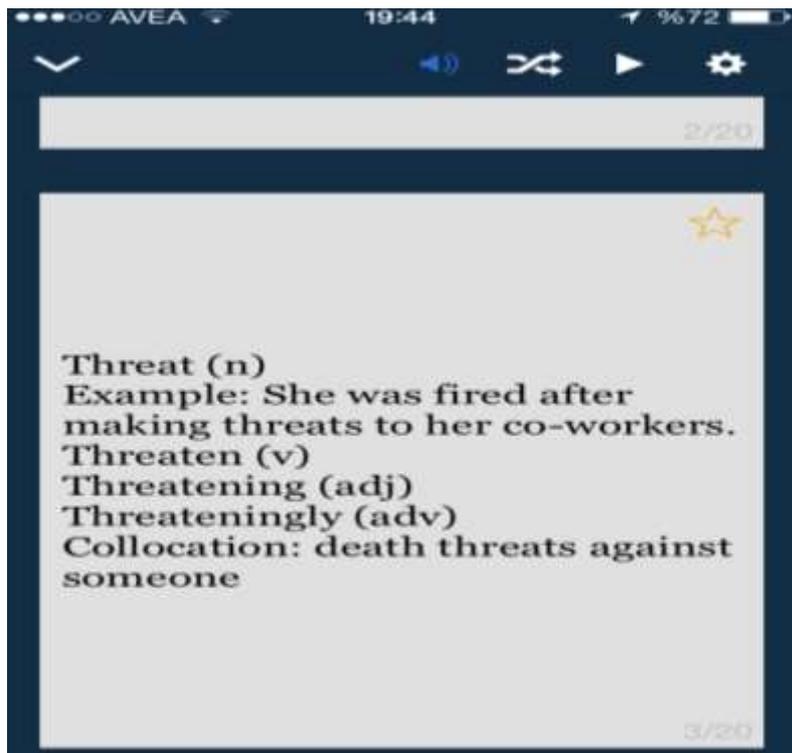


Figure 3.8. Front Face of the Flashcard on Quizlet

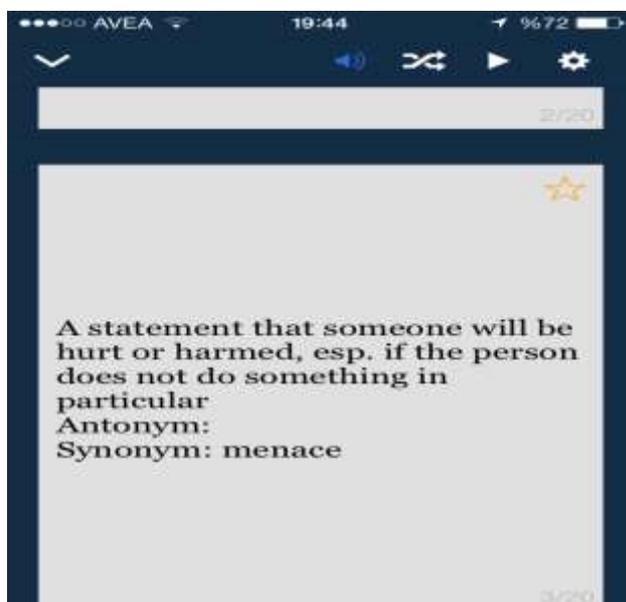


Figure 3.9. Back side of the Flashcard on Quizlet

3.7. Data Collection Procedure

In this study, the data were collected through pre-post tests conducted to the 40 students at B2 level in Bilkent University School of English Language and semi-structured interviews.

Before the study was conducted, a one week pilot study was held in the early January of 2014-2015 academic year. This pilot study aimed to evaluate the visual design, instructional design, and usability of pre-post tests and interviews.

A vocabulary achievement test including 80 items was developed by the researcher. In the pilot study, the vocabulary achievement test was conducted to 160 pre-faculty students in the early January of 2015. Having done the pilot study and analyzed the data, no items were changed or updated in the achievement test. After this stage, the study was conducted with 40 pre-faculty students in the late February of 2014-2015 academic year. Before the actual study started, in terms of ethical issues, the permission from Middle East Technical University (METU) Human Subjects Ethics Committee was taken.

This study took 8 weeks as can be seen in Table 3.3. One week before the implementation started, a pre-test was conducted. At the beginning of the implementation, a presentation on how to keep vocabulary notebooks were given to both groups. This presentation was a kind of revision for the participants as they are all used to keeping paper-based vocabulary notebooks, considering the institutional policy. Moreover, the mobile application named as “Quizlet” was introduced to the experimental group. After that, starting from week 1 to week 8, each week the same 20 words were assigned to each group, about which mobile or paper-based vocabulary notebooks would be kept. At the end of week 8, a post test to see whether there was any improvement in participants’ vocabulary achievement scores in two groups was conducted. Moreover, semi-structured interviews were done with some students in the experimental group. The detailed information about the materials and instruments is given in the next section.

Table 3.2

Summary of the overall study in a chronological order

Tasks	Date
The target 160 words were determined	12.2014
The vocabulary achievement test was developed and reviewed.	12.2014
Pilot study was done in the early January, 2015	5-9.01.2015
The results of the piloting vocabulary test were analyzed	10-15. 01.2015
Pre-Test	24.02.2015
The implementation of the study	02.03.2015-25.04.2015
Post-Test	27.04.2015
Conducting Interviews	27/28.04.2015

Table 3.3

The details of the study

When?	Experimental Group	Control Group
Before starting teaching vocabulary 24.02.2015	Pre-Test (Vocabulary Achievement Test)	Pre-Test (Vocabulary Achievement Test)
Before starting teaching vocabulary 26.02.2015	Presentation to mobile application entitled "Quizlet" Short presentation on how to keep vocabulary notebooks (what to include,	Short presentation on how to keep vocabulary notebooks (what to include, whether to write other Word forms, etc)

Table 3.3 (continued)

	whether to write other Word forms, etc)	
Week 1- 02.03.2015		
Week 2- 09.03.2015	Presenting new 20 words to record on their mobile	Presenting new 20 words to record on their paper-based
Week 3- 16.03.2015	vocabulary notebooks.	vocabulary notebooks.
Week 4- 23.03.2015	(160 words in total)	(160 words in total)
Week 5- 30.03.2015		
Week 6- 07.04.2015		
Week 7- 15.04.2015		
Week 8- 22.04.2015		
27.04.2015	Post-Test (Vocabulary Achievement Test)	Post-Test (Vocabulary Achievement Test)
27-28.04.2015	Conducting semi-structured interviews	X

3.8. Data Analysis

In this study, both quantitative and qualitative data were collected through the vocabulary achievement test conducted before and after the treatment and also from the semi-structured interviews conducted at the end of the study. The first problem of this study was to investigate the difference between the vocabulary achievement level of the students using mobile-based and paper based vocabulary notebooks. To test the null hypothesis, two different analyses were conducted. These are Mixed ANOVA , a parametric test and independent samples Mann Whitney U test, a non-parametric test. Taking the design of the study and time intervals into consideration, first Mixed ANOVA was conducted as all the assumptions could be provided except for the number of the participants, which was 20 in each group in this study. However, as there were some minor violations in the assumption check procedure, in order to solidify and reinforce the analysis of the data, independent samples Mann Whitney U test was performed as well.

Before starting the analyses for both pre-post tests, the assumptions for Mixed ANOVA and Mann-Whitney U test, were checked. Before performing Mixed-ANOVA and when the tests have been scored, the mean values (M) and standard deviations (SD) for each test were computed. After that, assumptions for Mixed ANOVA were checked. The assumptions for Mixed ANOVA are sample sizes, normality, homogeneity of variance, sphericity and homogeneity of inter-correlations.

Then, in order to see whether there is any significant difference between two groups in pre-tests, an independent samples t-test was conducted. Afterwards, in order to see whether the improvements in both groups after the treatment are analyzed by performing Mixed ANOVA. Then, plot has been analyzed to see whether there is an interaction between both groups.

While performing independent samples Mann Whitney U test, when the tests were scored, the mean values (M) and standard deviations (SD) for each test were computed. Then, whether the distribution of the scores for both groups were similar was checked by box-plot.

After that, in order to see whether there is any significant difference between two groups in pre-tests, Mann-Whitney U test, a non-parametric test was performed. As the sample size of each group was 20, which is less than 30, a non-parametric test was applied to analyze the data.

The qualitative data were obtained through conducting semi-structured interviews with the participants in experimental group. The interviews were recorded in voice recorder and then transcribed and analyzed by the researcher by doing content analysis.

In this study, all the statistical procedures were performed by SPSS 22.0 Statistical Package. The .05 level was set to be the criterion of statistical significance for the statistical analyses performed.

3.9. Limitations of the Study

There are some possible extraneous (confounding) variables which might affect the study but may not be controlled by the researcher, which are gender, the vocabulary level and competency of technology use. In this study, gender can be a confounding variable because male participants might be better at using smart phones or female students might be better at learning vocabulary. To exemplify, the study conducted by Wang Y., Wu, C., and Wang, S. (2009) indicated that there were some significant gender and age differences in terms of the effects of the determinants on behavioral intention in the acceptance of mobile learning. In the same way, there are the gender differences to a large extent especially towards the end of secondary school (Cole, 1997; Coley, 2003; Hill & Russell, 1999).

Thus, the results might not show that the increase in vocabulary achievement totally due to the use of a mobile application. In addition to this, the competency of technology use of the students in terms of using mobile applications can affect the results. If a student is more keen on using technology, or smart phone in this case, s/he can easily keep vocabulary notebooks and thus have higher scores in the post achievement test.

Apart from these, actually, the SES might be a confounding variable but as this study is done in a private university in Turkey and almost all the students in this university have smart phones even though they receive scholarships, they are provided with enough financial support, this will not cause any problem for this study.

In terms of internal validity, subject characteristics might be the case as they all have different backgrounds. The location, data collector characteristics and data collector bias are controlled as all the participants are at the same institution in the similar physical classroom environment, using the same course books and having the same teachers. Moreover, the testing threat is minimized as there are 8 weeks between the pre and post-tests.

CHAPTER 4

RESULTS

This study aimed to investigate the differences in vocabulary achievement level of students keeping mobile-based and paper-based vocabulary notebooks in English language learning and tried to find out the students' perceptions on the use of mobile-based vocabulary notebooks.

This study was conducted at Bilkent University School of English Language in the Preparatory Program. There were two groups, one of which was experimental and the other one was control. Each group included twenty students, forty in total. In this study, the control group kept paper-based vocabulary notebook but the experimental group kept mobile-based vocabulary notebook.

This chapter reveals the analysis of the data gathered from the vocabulary achievement test which was applied before and after the treatment and also the qualitative data collected from semi-structured interviews conducted at the end of the study with five participants from the experimental group.

4.1. MIXED ANOVA

4.1.1. Assumptions Check

In order to perform Mixed ANOVA, the minimum number of the each group should be twenty, which is the first assumption to be checked. As there were twenty participants in this study, the qualitative data gathered through pre-post tests can be analyzed through Mixed ANOVA. The second assumption to be checked before performing Mixed ANOVA is normality which can be conducted by doing Skewness-Kurtosis, Kolmogorov-Smirnov test, Shapiro-Wilk, Histogram and Q-Q plot analyzes.

As for Skewness and Kurtosis test, the results should have the values either close to zero or between -3 and +3. The table 2 shows the values of Skewness and Kurtosis for both groups in pre and post-tests. When the Skewness and Kurtosis values are checked, we can say that they are mostly close to zero. Hence, we can conclude that there is less variation in the data and they are close to normal distribution.

Table 4.1

Skewness and Kurtosis Values for both groups in pre-post tests

<i>Group Type</i>	<i>Tests</i>	<i>Skewness</i>	<i>Kurtosis</i>
Experimental	Pre test	.56	-.67
	Post test	-.21	-.97
Control	Pre test	.27	-.40
	Post test	.60	-1.83

As for Kolmogorov-Smirnov test, the results should be non-significant ($p > .05$) not to violate the normality assumption. According to Table 3, all the significance values for both tests of both groups are larger than .05; thus, they are non-significant and the normality assumption has not been violated. For further discussions, we need to check Shapiro-Wilk test.

Table 4.2

Kolmogorov-Smirnov Test Values for both groups in pre-post tests

<i>Kolmogorov-Smirnov</i>				
<i>Group Type</i>	<i>Tests</i>	<i>Statistics</i>	<i>df</i>	<i>p</i>
Experimental	Pre test	.17	20	.15
	Post test	.11	20	.20
Control	Pre test	.10	20	.20
	Post test	.19	20	.07

* $p > .05$

As for Shapiro-Wilk test, the results should be non-significant similar to Kolmogorov-Smirnov not to violate the normality assumption as well. According to Table 4, the significance values for both groups in both tests are higher than .05; thus, they are non-significant and the normality assumption hasn't been violated. Considering all the results in both Kolmogorov-Smirnov and Shapiro-Wilk tests, we can conclude that we satisfy normality assumption.

Table 4.3
Shapiro-Wilk Test Values for both groups in pre-post tests

<i>Shapiro-Wilk</i>				
<i>Group Type</i>	<i>Tests</i>	<i>Statistics</i>	<i>df</i>	<i>p</i>
Experimental	Pre test	.94	20	.24
	Post test	.96	20	.55
Control	Pre test	.98	20	.20
	Post test	.89	20	.03

We continue checking normality with histograms for each group in each test. The histogram for experimental group in pre-test is displayed in Figure 1. According to Figure 1, we can say that the distribution of pre-test is slightly normal since there is one peak point and it is close to the middle. However, when mean and median scores are checked ($M=20.50$, $Median=18.50$), as $mean > median$, we can say that it is slightly positively skewed. Thus, as for normality, it can be said that there is a relative normality.

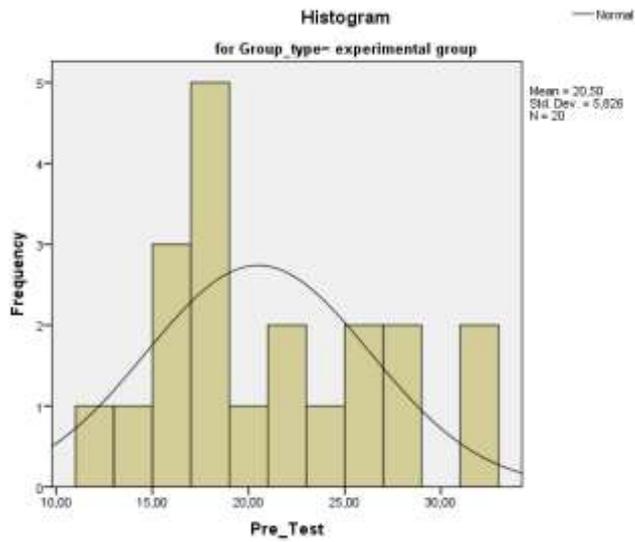


Figure 4.1. Histogram for Experimental group pre-test

The histogram for control group in pre-test is displayed in Figure 2. According to Figure 2, we can say that the distribution for pre-test is normal as peak points cluster in the middle. Thus, as for normality, it can be said that there is a normality.

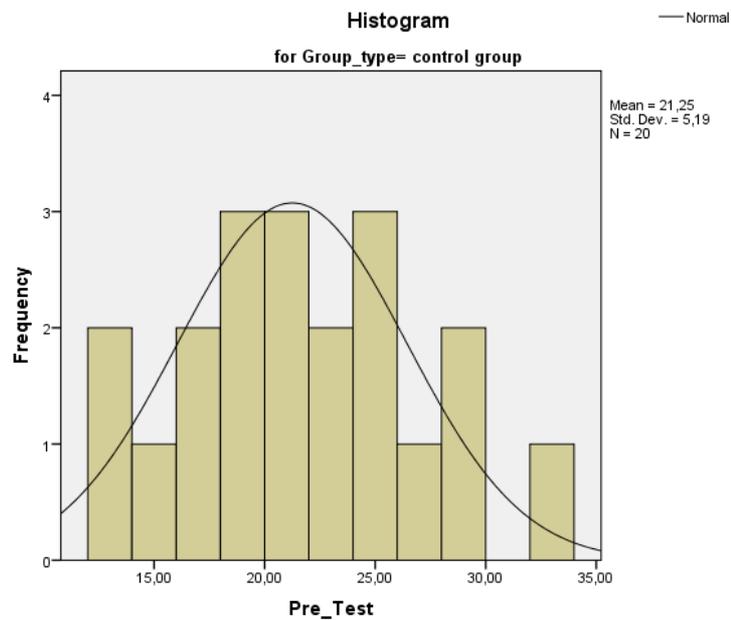


Figure 4.2. Histogram for Control group in pre-test

The histogram for experimental group in post-test is shown in Figure 3. According to Figure 3, we can say that the distribution is slightly normal although it is not ideally normal. When the mean and median scores are checked ($M=69.40$, $Median=70.00$), as $mean < median$ it is slightly negatively skewed. Thus, as for normality, it can be said that there is a relative normality although the distribution is not ideally normal.

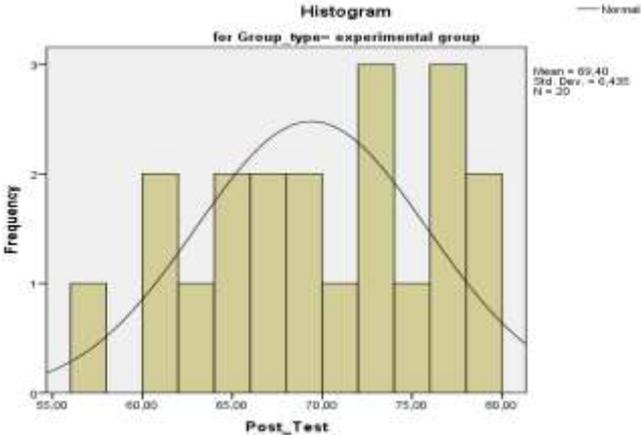


Figure 4.3. Histogram for Experimental Group in post-test

Lastly, the histogram for control group in post-test is shown in Figure 4. According to Figure 4, we can say that the distribution is slightly normal although it is not ideally normal. When the mean and median scores are checked ($M=58.70$, $Median=55.50$), as $mean > median$ it is positively skewed. Thus, as for normality, it can be said that there is a relative normality although the distribution is not ideally normal.

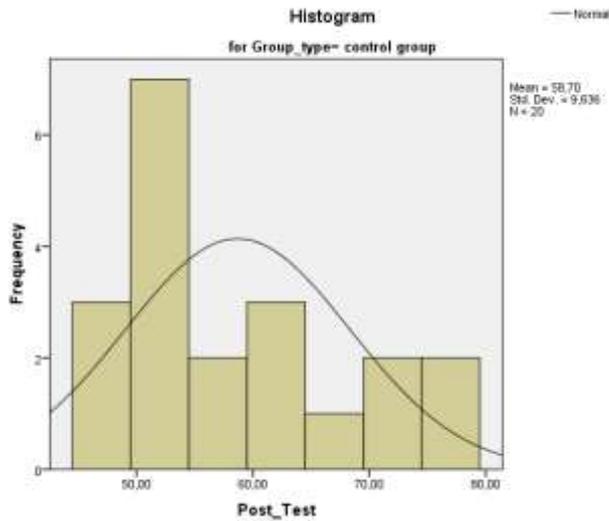


Figure 4.4. Histogram for Control Group in post-test

Another way to check the normality assumption is Q-Q plots. Considering all the four Q-Q plots, we can say that normality hasn't been violated relatively as most of the dots in each figure are close to the lines although there are some dots which are a little bit away from the lines.

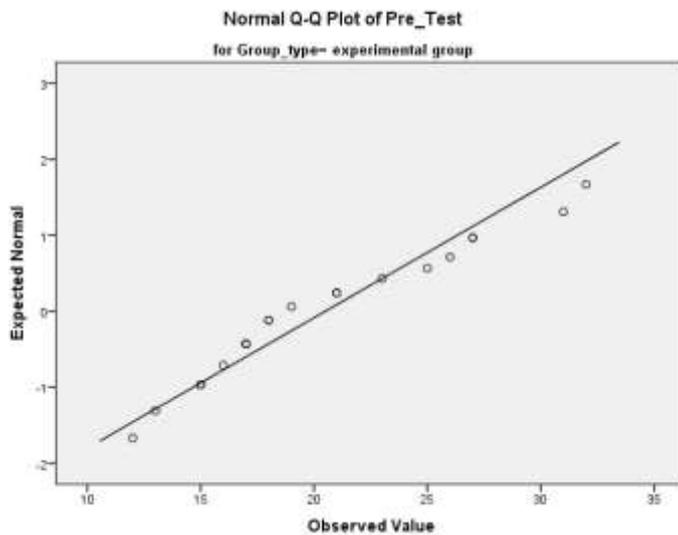


Figure 4.5. Q-Q Plot for Experimental Group Pre-test

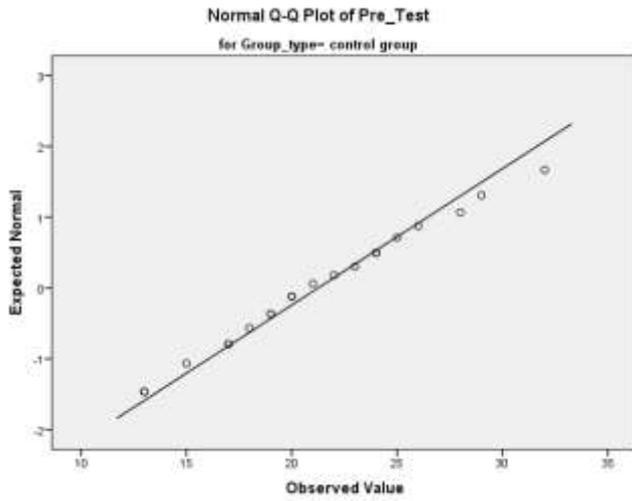


Figure 4.6. Q-Q Plot for Control Group Pre-test

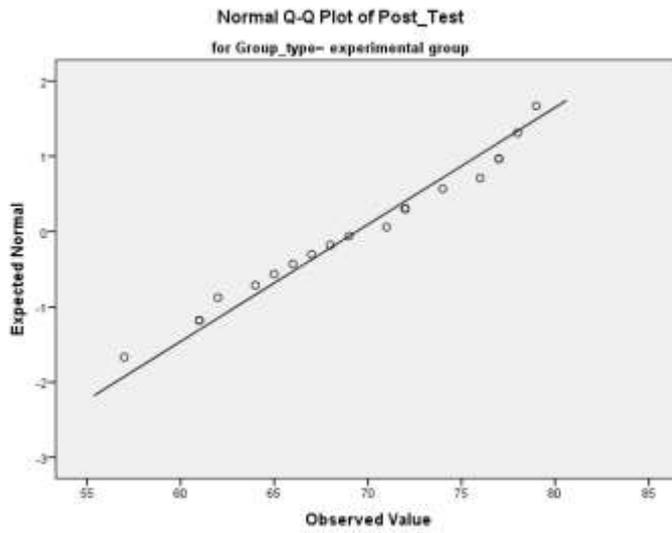


Figure 4.7. Q-Q Plot for Experimental Group Post-test

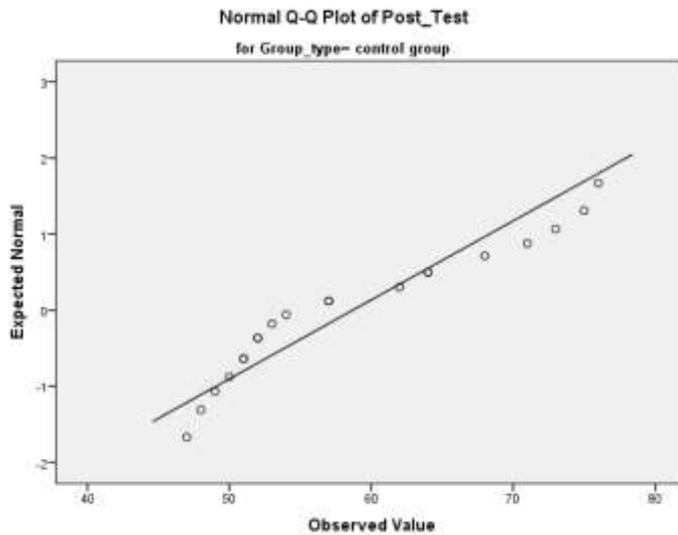


Figure 4.8. Q-Q Plot for Control Group Post-Test

Regarding all the tests conducted to check the normality overall, we can conclude that the normality assumption hasn't been violated.

The third assumption is homogeneity of variance that we need to check. The Levene's test results which are displayed in Table 5 show us whether the homogeneity variance assumption has been violated or not. In order not to violate the normality assumption, we need to fail to reject the null hypothesis. Considering the results of the Levene's test as shown in Table 5, we fail to reject the null hypothesis as the significance value (.47) is higher than .05 but as can be seen in table 6, we reject the null hypothesis as the significance value for post-tests (.03) are smaller than .05. Still, we can conclude that our homogeneity variance assumption hasn't been violated.

Table 4.4

Levene's Test for Pre test

<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
.51	1	38	.47

* $p > .05$

Table 4.5

Levene's Test for Post test

<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
5.70	1	38	.03

* $p > .05$

The next to be checked is sphericity assumption. As there are only two levels in this mixed ANOVA analysis, there isn't any meaningful result from Mauchly's test of sphericity. Thus, we don't check it.

The final assumption to be checked in Mixed ANOVA is homogeneity of inter-correlations, which can be done by checking the results of Box's M which is very sensitive. In order not to violate this assumption, we should fail to reject the null hypothesis but as can be seen in table , it is significant (.03). However, as long as it is not very significant like .001, we can continue performing the analysis as Box's M gives very sensitive results.

Table 4.6

Box's Test of Equality of Covariance Matrices

<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
3,05	3	259920.00	.03

* $p > .05$

4.1.2. Results of Independent Samples t Test

In order to check whether both groups were similar as for vocabulary knowledge level, an independent samples t test was conducted. According to the result of this test, there was a non-significant difference in the pre-test scores for experimental ($M=20.5$, $SD=5.83$) and control ($M=21.25$, $SD=5.19$) groups; $t(38)=-.43$, $p = .67$.

4.1.3. Results of Mixed ANOVA

A Mixed ANOVA test was conducted to measure the effects of using mobile-based and paper-based vocabulary notebooks on students' vocabulary achievement tests. The results of the test are provided in Table 4.7. The results indicated that there is a significant interaction between group type and pre-post tests, $F(1, 38) = 19.64$, $p < .05$, $\eta^2 = .34$. According to standards suggested by Cohen (1988), there is a large effect of group types. Also, that value indicates that the 34 % variance in pre-post tests is explained by the main effect of group type.

Table 4.7
Mixed ANOVA Results for Pre-Post Tests

<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	η^2
Pre-Post Tests*GroupType	655.51	1	655.51	19.64*	.34
Error	1268.38	205	33.38		
Total	1923.89	206			

* $p < .05$

As we found significant interaction, we do not need to do post-hoc comparisons. We need to examine data plot which was given in Figure 4.9. Plotting the means for mixed ANOVA showed existence of nonparallel lines indicating an interaction between two factors (pre-post-tests*group type). Figure shows that mean scores of pre--tests of students who kept mobile-based vocabulary notebooks ($M =$

20.50) and who kept paper-based vocabulary notebooks ($M = 21.25$) are close to each other.

When we look at the mean scores of post-tests of the students who kept mobile-based vocabulary notebooks ($M = 69.40$) have higher vocabulary achievement scores than students who kept paper-based vocabulary notebooks ($M = 58.70$). Overall, students using mobile-based vocabulary notebooks have a higher mean of vocabulary achievement test results in post-test.

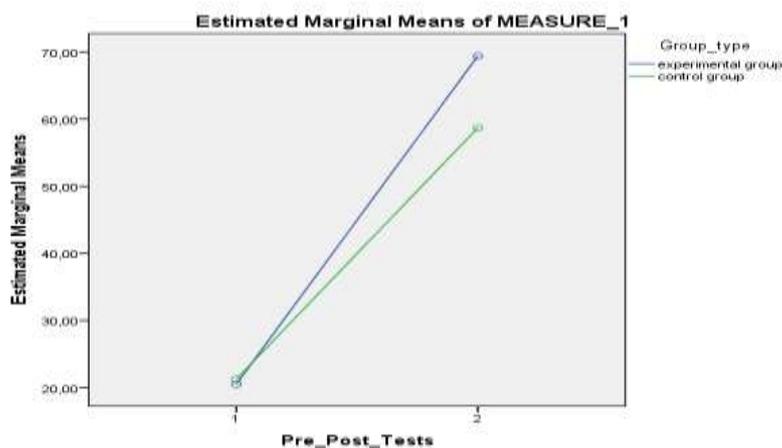


Figure 4.9 Plot for Pre_Post Tests according to Group Type

In conclusion, the null hypothesis for the first research question, was rejected. There is statistically significant evidence that there is an interaction between vocabulary achievement tests and which vocabulary notebook to use. Plots indicated that mean the mean scores of post-tests of the students who kept mobile-based vocabulary notebooks ($M = 69.40$, $SD= 6.44$) are higher than students' who kept paper-based vocabulary notebooks ($M = 58.70$, $SD= 9.64$).

Since there were some minor violations in some assumptions of this parametric test, I also analyzed the same results using independent samples Mann Whitney U test, which is a non parametric test.

4.2. Independent Samples Mann Whitney U Test

4.2.1. Results of the Pre-Tests

In order to check whether both experimental and control groups were similar in terms of vocabulary knowledge, the results of the pre-test was analyzed by performing Mann-Whitney U test. The results of this test showed that the prior vocabulary knowledge of both groups was similar. Namely, there was no significant difference in pre-test scores between experimental($M=20.5$, $SD=5.83$) and control ($M=21.25$, $SD=5.19$) groups, $p>.05$, $U= 177$, $Z=-.62$. The table 1 indicates the total scores of the learners in the pre-test. Considering the results, both groups were assumed to be homogeneous in terms of prior vocabulary knowledge.

Table 4.8

Comparison of Pre-Test Scores of Experimental and Control Groups

Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>U</i>	<i>Z</i>	<i>p</i>
Experimental	20	20.50	5.83	280	-.62	.53
Control	20	21.25	5.19			

Furthermore, the assumption of Mann-Whitney U test was checked and it showed that the distributions of the pre-test scores of both groups are similar (See figure 4.10)

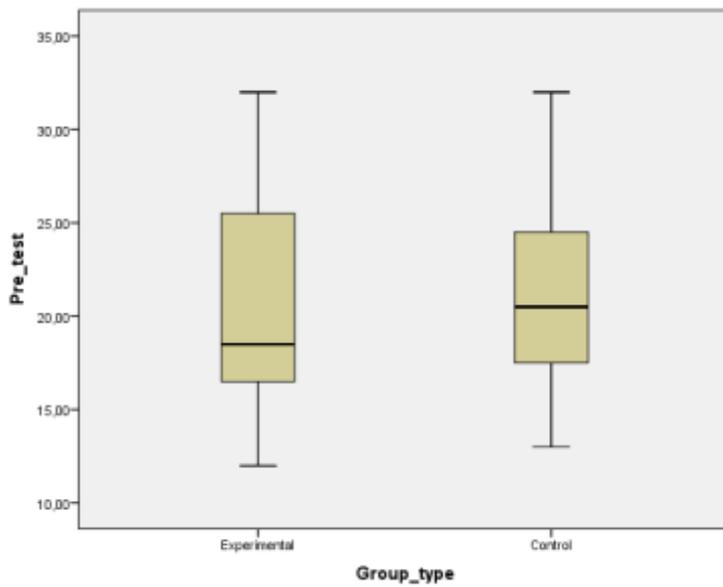


Figure 4.10 Box Plot for Mann-Whitney U test for Pre-test

4.2.2. Results of the Post-Tests

After the treatment was implemented to the experimental group, the students in both experimental and control groups were given the post-test. Considering the results of the post-test (see table 2), there is a significant difference between the experimental ($M=69.40$, $SD=6.44$) and the control groups' ($M=58.70$, $SD=9.64$) vocabulary achievement test scores. Namely, the students' vocabulary achievement in the experimental group was higher than the students' in the control group.

Table 4.9

Comparison of Post-Test Scores of Experimental and Control Groups

Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>U</i>	<i>Z</i>	<i>p</i>
Experimental	20	69.40	6.44	67	-3.60	.000
Control	20	58.70	9.64			

Moreover, the assumption of Mann-Whitney U test was checked and it showed that the distributions of the post-test scores of both groups are different

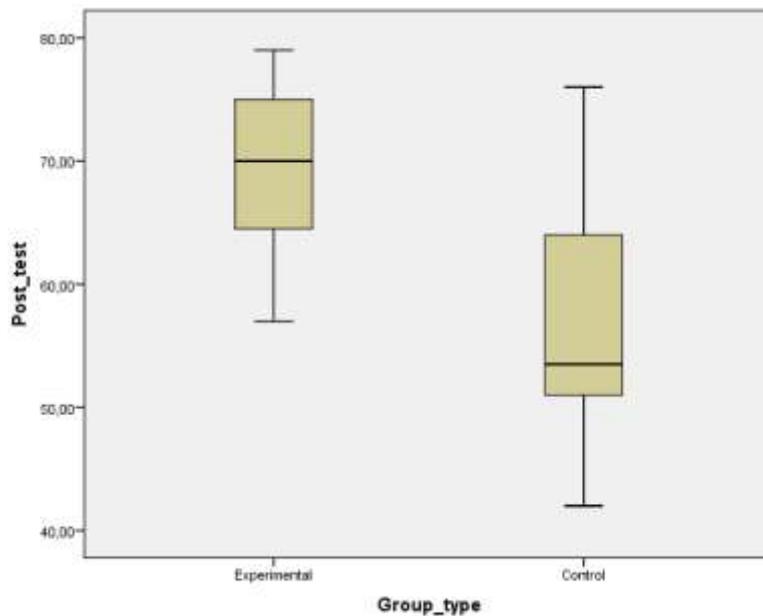


Figure 4.11 Box Plot for Mann-Whitney U test for Post-test

When we look at the mean scores of post-tests of the students who kept mobile-based vocabulary notebooks ($M = 69.40$) have higher vocabulary achievement scores than students who kept paper-based vocabulary notebooks ($M = 58.70$). Overall, students using mobile-based vocabulary notebooks have a higher mean of vocabulary achievement test results in post-test.

In conclusion, the null hypothesis for the first research question, which is, “There is no significant difference between the vocabulary achievement of students keeping mobile-based and paper-based vocabulary notebooks” was rejected. There is a significant difference between the experimental and the control groups’ vocabulary achievement test scores. The results indicated that mean the mean scores of post-tests of the students who kept mobile-based vocabulary notebooks ($M = 69.40$, $SD = 6.44$) are higher than students’ who kept paper-based vocabulary notebooks ($M = 58.70$, $SD = 9.64$).

Regarding the analysis of the two test results, as these two results are similar and support each other, it can be concluded that experimental groups’ mean scores are significantly higher than the control groups’ mean scores.

4.3. Interview Results

The qualitative data were gathered through semi-structured interviews conducted to 5 students from the experimental group who used mobile-based vocabulary notebooks. The data were analyzed through content analysis to get some ideas about students' perceptions on the use of mobile-based vocabulary notebooks and their suggestions about the implication of using mobile-based vocabulary notebooks in vocabulary learning. According to the results of the data obtained from all 5 students, using mobile-based vocabulary notebook is very useful and effective. Moreover, the participants stated that using a mobile application while keeping vocabulary notebooks motivated them more than paper-based vocabulary notebooks.

The interview consisted of five questions, all of which focuses on the different points of using mobile-based vocabulary notebooks (see Appendix B). The first question was about whether the students kept the mobile-based vocabulary notebooks through Quizlet regularly or not. Except student A, the other four students stated that they kept the vocabulary notebook through Quizlet every week until the end of week 8 which is the end of the study. That student A stated that as he collected some points necessary to pass the course, he didn't do the last two weeks' 40 words. Student B stated,

“I kept the vocabulary notebook regularly because in this I realized that I can retain more words in my mind”

The second question was about whether the participants found using a mobile application while keeping vocabulary notebook is useful and beneficial. All the students (n=5) stated that using a mobile application while keeping vocabulary notebook was useful. Student C explained this by stating,

“As we live in a technological world and we have been using the Internet and actually technology since our childhood, keeping a vocabulary notebook through an application on our smart phones was much convenient for us. As you see we always play with our smart phones. Thus, whenever I checked my smart phone, I had a chance to revise the words that I entered in Quizlet”

Student D voiced that,

“As I love using technology in my daily live, this was what I needed while studying English”

The third question focused on the positive and negative sides of using a mobile application while keeping vocabulary notebooks. All of the students gave positive feedback about the use of mobile application while keeping vocabulary notebook.

Student E stated,

“This application was convenient for me. For example, while entering the words, I didn’t encounter any problems regarding the application itself. Moreover, when I had free time at home, I could easily enter the assigned words each week and revise them regularly, actually wherever I was as I could carry my mobile phone everywhere”

Student D gave details by saying,

“ Keeping vocabulary noteebok through an application was definitely time-saving for me. If I had to use a pencil and a piece of paper, I am sure I would spend more time”

Student C stated,

“Nowadays, unfortunately, we are using our mobile phones as a third hand. We use our mobile phones for whatever we do in our daily lives. Thus, I could revise and check the words that I entered in Quizlet even though I was waiting for a message from my friends”

Student E specifically mentioned the pronunciation feature of Quizlet by saying,

“When we enter the words, the program automatically adds the pronunciation of the words, which really helped me improve my pronunciation. It was like a dictionary for me”

And student B mentioned the further activities that the program creates by stating,

“I could create vocabulary exercises or games by using the words that I entered in Quizlet. It was amazing as I could have extra vocabulary activity. I think thanks to this, I obtained more points from my vocabulary quizzes”

As for negative sides, student A stated,

“Sometimes while entering the words, I had difficulty. For example, I wrote the meaning of the words on a wrong side; because of that, when I asked the

program to create flashcards, I couldn't do appropriately. Maybe some more guidance should have been given although we were introduced at the beginning”

Student C voiced,

“As a learner who likes studying while taking notes on a paper, I was biased on the use of mobile-based vocabulary notebooks. However, as I got higher grades from the vocabulary quizzes in this course, I thought using mobile-based vocabulary notebook is beneficial for me. Moreover, I realized that I could also use some applications while studying rather than paper and a pencil”

The forth question was about whether keeping a mobile-based vocabulary notebook is a good method while studying vocabulary, which was related to positive aspect of the third question.

Student D stated,

“I can lose my notebook or my pen and pencils or I might even forget them at home. However, there is a less chance for me to lose my mobile phone or forget it at home as I am addicted to it. Hence, integrating mobile phones into vocabulary learning has really contibuted to my vocabulary”

Student E voiced,

“If I use a paper-based vocabulary notebook, I can check it only when I write the words. However, with the help of the application, I can check my mobile vocabulary notebook whenever and wherever I want”

The last question focused on the students' ideas or further suggestions about the use of mobile-based vocabulary notebooks. They generally claimed that they were happy with the way they used in this study. However, they also mentioned the number of the words could be increased as after a while, they felt that entering only 20 words was easy for them.

Apart from that, student D stated she suggested this to her friends at other levels or other universities and they really liked it.

“My friends at other levels saw it when I was checking the words at the weekend or at lunch at school. They also wanted to use it and liked it. I think

other students should also use it rather than keeping paper-based vocabulary notebooks”.

Considering all these, it can be said that all of the participants (n=5) were pleased with using mobile-based vocabulary notebook.

4.4. Summary of Results

The results suggest that the learners who used mobile-based vocabulary notebooks had better improvements than the ones who used paper-based vocabulary notebooks. Thus, it can be said that keeping mobile-based vocabulary notebooks while studying vocabulary helps students enhance their vocabulary knowledge more than using paper-based vocabulary notebooks.

Regarding the qualitative data from the interviews conducted with five participants from experimental group, it can be said that all the students (n=5) were delighted with the use of mobile-based vocabulary notebooks as they think use of an application on smart phone helped them save time while studying vocabulary and also it was much more convenient compared to paper-based vocabulary notebooks.

CHAPTER 5

DISCUSSION

This chapter presents the discussion of the research findings drawn from the results, implications and recommendations for practice and future research. There were two research questions in this study. The results of each research question were discussed in relation to previous studies.

5.1. Discussion of the Results

The research questions of this study shape the discussion of the research findings. The discussion presents summary of the results first and then the comparison of these findings with the previous studies.

The first research question of this study tried to find out the difference between the vocabulary achievement of students keeping mobile-based and paper-based vocabulary notebooks. This question was answered through the use of Mixed ANOVA and independent samples Mann Whitney U test. The dependent variable in this study was the vocabulary achievement level of the students in the pre and post-tests and the independent variable is using mobile-based vocabulary notebooks.

At the beginning of this study, both groups were similar to each other in terms of prior vocabulary knowledge. However, the analysis of the data collated from post vocabulary achievement tests indicated that there is a significant difference between the vocabulary achievement level of students using mobile-based and paper-based vocabulary notebooks. In other words, the students using mobile-based vocabulary notebooks improved their vocabulary knowledge significantly better than the ones using paper-based vocabulary notebooks. Although the students in both groups received vocabulary instruction from the same teacher, the students using mobile-based vocabulary notebooks showed more progress in vocabulary knowledge than the students using paper-based vocabulary notebooks. This shows that use of mobile application, namely, the integration of mobile learning into vocabulary

learning has a positive effect on students' vocabulary achievement level.

As Lewis (2000) stated keeping vocabulary notebooks is one useful way to benefit consolidation vocabulary learning strategies which are memory, social, metacognitive and cognitive strategies in vocabulary learning as it enables learners to revise each word and in this way activate the vocabulary they meet. Thus, in this study, when the mean scores of both groups in post tests were checked, both experimental and control group improved their vocabulary achievement score. This could result from the fact that vocabulary notebooks already add value to the learning process, which also aligns with Kinsella (2010) 's study. In Bozkurt (2007) 's study, the experimental group using vocabulary notebooks improved their vocabulary knowledge in the retention tests more than the control group not using vocabulary notebooks. However, in this study the group using mobile-based vocabulary notebooks improved their vocabulary achievement scores more, which shows the positive effect of integration of mobile learning into vocabulary learning.

Since the literature related to the use of mobile applications in the use of vocabulary notebooks while studying vocabulary is limited, it was not possible to make comparisons with similar studies. However, the results could be compared with the use of mobile applications in vocabulary learning or any other skills of English language.

In Song's study (2008), the hybrid use of SMS and the web in vocabulary learning were compared. The results of this study indicated that mobile technology can improve the participants' vocabulary learning. Pei-Lin and Chiu-Jung (2015) conducted a study on the impact of taking photos using mobile phones in the English phrase-learning. A total of 116 students enrolled in a college in Central Taiwan participated in this study. In this study, the control group was expected to do an online phrase-reading activity for phrase learning and the experimental group was asked to do phrase learning by taking photos on their their mobile phones. The results of this study also showed that the participants doing phrase learning by taking photos on their mobile phones performed significantly better in the delayed post-test than the ones doing online phrase reading activity. In Cavus and Ibrahim's study (2009) MOLT system, similar to an SMS-sending system was used to teach some technical words. The results of this study revealed that could learn the target words

easily thanks to this SMS system. Attewell (2005) conducted a study on a mobile learning project, which aimed to motivate students learning a foreign language. At the end of this study, it was found that most of the students developed their reading comprehension and spelling skills with the help of mobile learning, and they claimed that they would like to continue using mobile devices while studying reading.

On the other hand, there are also some studies, the results of which show that mobile learning does not necessarily increase the students' achievement. For instance, Stockwell conducted a study (2007) on the integration of mobile learning into vocabulary learning. The results of this study revealed that vocabulary learning through the use of mobile phones didn't have more advantages than through using desktop computers. There was not a significant difference in students' performance in vocabulary learning.

The second research question in this study tried to explore the students' opinions about the use of mobile-based vocabulary notebooks in vocabulary learning. Data were collected through semi-structured interviews in order to get in depth information related to using mobile-based vocabulary notebooks. There were five questions in the interview, all of which focused on the different points of using mobile-based vocabulary notebooks. (see App). The responses received from all students are positive as they all claimed using mobile-based vocabulary notebook is useful and effective.

Most of the students (except one) expresses that they kept the vocabulary notebook through Quizlet every week until the end of week 8 which is the end of the study. One student didn't do that as he thought he collected required points to pass the course. Furthermore, the interviewees stated that using a mobile application while keeping vocabulary notebooks motivated them more than paper-based vocabulary notebooks.

Apart from these, all of the students gave positive feedback about the use of mobile application while keeping vocabulary notebook as they think Quizlet was convenient for them, which helped them save time while studying vocabulary. Besides, they stated that entering 20 words every week was manageable for them so that they could retain more vocabulary.

Aligned with this study, there are other studies which come up with the same results as in this study. Firstly, in Ring's study (2001) in which textual course content, quizzes, reminders were sent to learners' mobile phones as an extra activity to an online business course, all of the participants agreed that mobile learning enriched the course by adding value. Moreover, the students' reactions in this study are similar to what was found in Saran, Çağiltay and Seferoğlu (2008) 's study, the results of which also revealed that students were positive to use the instructional materials in their mobile phones. Likewise, in Houser and Thornton's study (2001), most of the learners wished to continue lessons by receiving instructions through SMS rather than with desktop computers and through that mobile learning was an encouraging teaching method for them. Furthermore, In Basoglu and Akdemir's study (2010) the effectiveness of the mobile devices and flashcards were compared in English vocabulary learning. The results indicated that students studying vocabulary through mobile devices had better performance in vocabulary learning and these students were more positive about the integration of mobile learning into vocabulary learning.

However, some other studies revealed that learners didn't find the integration of mobile learning useful. To illustrate, Okunbor and Retta (2008) carried out a study on the use of mobile phones to improve student learning. In this study, participants were expected to continue their academic and social lives by using applications made available to students on the national mobile phone network. The results showed that many learners using the mobile-based applications expressed that they were not significant.

Considering the common points that students stated, being accessible anytime and anywhere and matching with their daily lives are the main reasons for them to use mobile-based vocabulary notebooks rather than paper-based ones, which was also mentioned by Diaz and Carrion (2015).

The other points that students mentioned following convenience are the automatically-generated activities that Quizlet creates for them by using the words they entered into the program and the pronunciation feature. The participants were quite happy with the activities that the program created as such activities provided them with extra supplementary vocabulary tasks. As for pronunciation, as the

program allows learners to check the pronunciation of the each word entered, the students claimed that they could improve their pronunciation as well.

These results are also consistent with what the relevant literature says. For example, the cognitive load theory claims things should be kept simple in design process, which may help to transfer information from short-term memory to long-term memory (Sweller, van Merriënboer, & Paas, 1998). Besides, learners should be encouraged to practice the target information in short periods but regularly in order to store the information in long-term memory so that it will not be lost. As students entered 20 new words every week and could do extra activities that Quizlet creates, the students using mobile-based vocabulary notebooks could learn more vocabulary. Despite a lot of positive comments from the students about the use of mobile-based vocabulary notebooks, some students thought that they sometimes had difficulty entering the words or while creating flashcards using Quizlet, which are somehow related to technical limitations. These students suggested that the way to enter the words could be easier as for the program and also more guidance could have been given to them in terms of how to use Quizlet. Thornton and Houser (2001) stated such technical limitations of mobile phones in terms of the screen size or inputting the text. In this study, screen size was not an issue as most of the smartphones have larger screens nowadays.

5.4. Implications for Practice

The results of post-tests showed that students using mobile-based vocabulary notebooks improved their vocabulary achievement scores more than the ones using paper-based vocabulary notebooks. Regarding the learners' reactions to mobile-based vocabulary notebooks, they were quite positive about using a mobile application while keeping vocabulary notebooks. They stated that they found using mobile-based vocabulary notebooks useful and motivating. They also touched upon some features of smart phones such as portability and immediacy, which enabled them to study whenever and wherever they want. To this end, it can be suggested that integrating mobile learning into English language courses in terms of instructional design through such mobile devices as smart phones should be encouraged as students are provided with further practice materials outside the class,

which increases the quality time spent in class. With the mobile-based materials, learners have more vocabulary revision opportunities as stated in this study. As nowadays the foreign language learners are digital natives who are born with technology, the use of technology and mobile devices is an indispensable part of their daily-lives. In order to reach them more and meet their needs better, such mobile devices and mobile learning should be integrated into outside class activities. On the other hand, there are also things to be kept in mind while integrating mobile devices into learning and teaching. The first and utmost important point is the readiness of the students. To this end, the institutional context and students' background should be taken into consideration. Thus, it is highly suggested that piloting should be done before the actual study.

Regarding the needs and backgrounds of the foreign language learners in this century, the learning environments and curricula should be updated and revised considering the principles of mobile learning. The inside and outside class activities should involve more mobile-based materials, which could also increase the student motivation. As stated in this study, when smart phones are integrated into learning, students become more involved into learning process. However, some cognitive theories like dual coding or cognitive load should be given priority while designing mobile-based materials. For example, so as to help learners store vocabulary in their long-term memory, only 20 words per week were assigned. Moreover, when technology is integrated into the instructional design, technical sides should not place too much importance as it might create extra burden on learners. As a result, this might affect learners' cognitive process negatively. In other words, technology and mobile learning in this research context should be embedded into learning so as to add value and enrich the learning and teaching.

Finally, in the technology integration into language learning process, not only students but also teachers should be the focus as well. Namely, teachers' technology use competency and their willingness are as important as students'. Thus, teachers should also receive the required trainings on the target mobile devices and applications to be used. Teachers should believe in the usefulness of using mobile devices, should be motivated and receive necessary trainings.

5.5. Implications for Research

Taking the foreign language learners in this century, who are digital natives, integration of technology into the learning and teaching process is a must in order to reach and meet the learners' needs much better. Hence, English language instructors, researchers and material designers should try to embed technology into the courses or the materials. In this respect, the curriculum design and assessment should be based on technology integration as well.

In this study, the difference between the use of mobile-based and paper-based vocabulary notebooks was investigated through pre-post vocabulary achievement tests which focus on receptive vocabulary knowledge. However, for future researches, productive vocabulary knowledge could also be integrated into the process so as to see to what extent the productive vocabulary knowledge would increase.

As for 20 words each week, some students found the number of the words assigned each week less challenging and thus they thought the number of the words could be increased to see to how vocabulary achievement scores in post-tests may differ. To this end, more than 20 words could be assigned.

This study was conducted to English language learners who were at B2 level. This study could be done to lower level learners like at A2 level to check whether the similar results will be received. This study was the first one in literature on the use of mobile-based vocabulary notebooks. Therefore, this study should be conducted with different level English language learners in different contexts.

Furthermore, the students were positive about the use of mobile-based vocabulary notebooks. This might result from novelty effect as well. For further studies, they might be designed in a longer period of time and could be done in institutions where students are used to using mobile devices in learning because in this study it was also students' first time to use an application in English language learning.

Apart from these, this study took 8 weeks and it didn't include any retention test. A retention test after one month of the end of the study, a vocabulary retention test could be implemented.

Regarding students' reactions obtained in this study, in other research teachers' opinions about the use of mobile-based vocabulary notebooks could be integrated as well. Teachers' reactions may help to dig into mobile-based instructional design.

As mobile learning is a new trend in technology integration in language teaching and it is a new study on the use of mobile-based vocabulary notebooks, this study only involved two groups, one experimental using mobile-based vocabulary notebooks and control using paper-based vocabulary notebooks. In order to see whether mobile learning or e-learning is more effective, mobile-based and computer-based vocabulary notebooks could be compared for future studies at lower and higher levels.

This study has some limitations like mobile competency level of students or SES. Considering such limitations, this study could be redesigned accordingly so that more valuable information for the literature could be gained.

In sum, the integration of mobile learning through a mobile device such as smart phone in foreign language vocabulary learning seems to have positive effect on students' vocabulary achievement level.

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APPENDICES

APPENDIX A

ENGLISH LANGUAGE VOCABULARY ACHIEVEMENT TEST

VOCABULARY ACHIEVEMENT TEST

This is a general vocabulary test which is prepared by considering the Pre-Faculty wordlist used in Bilkent University School of English Language. This vocabulary test includes 9 sections (A-I) and 80 questions in total. There are 3 different questions types: matching with the meaning, filling in the blanks and word-formation. Please read all the directions in each section carefully. Each correct item is 1 point. The total score for this test is 80 points and the total time allocated to do this test is 80 minutes.

A. On the line to the left of each definition in Column A, place the number of the corresponding word in column B. Each word in Column B may be used once or not at all. There are 5 extra words. One has already been done.

Column A	Column B
_____ a. inside one <u>country</u> and not <u>international</u>	1. alter
_____ b. the situation or experience of being poor	2. boost
_____ c. to look at something carefully and thoroughly because you want to find out more about it	3. capture
_____ d. to <u>try</u> to <u>find</u> or get something	4. contradict
_____ e. to work hard	5. domestic
	6. examine
	7. excessive
	8. export
	9. hinder

<p>_____ f. not knowing facts or information that you ought to know</p> <p>_____ g. to say firmly and often that something is true, especially when other people think it may not be true</p> <p>_____ h. to change</p> <p>__2__ i. to increase or improve something and make it more successful</p> <p>_____ j. a feeling that you are proud of something that you or someone connected with you has achieved</p> <p>_____ k. to sell goods to another country</p> <p>_____ l. about or relating to</p> <p>_____ m. to disagree with something, especially by saying that the opposite is true</p> <p>_____ n. to limit or control</p>	<p>10. ignorant</p> <p>11. insist</p> <p>12. labour(v)</p> <p>13. numerous</p> <p>14. poverty</p> <p>15. pride</p> <p>16. regarding</p> <p>17. restrict</p> <p>18. seek</p> <p>19. splendid</p>
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Points: _____/13

B. Fill in the blanks in the following paragraph with appropriate words from the box. Do not change the form of the words. There are three extra words.

raw	emerging	harvesting	vital	regulations	cultivation
undertake	strict	emission	compromise		

The Council of Europe and European Commission have (1) _____ importance across countries in the European Union. They are the decision making bodies in many areas ranging from education, protection of world heritage, conservation of nature and agriculture. They

(2) _____ controls and lay down (3) _____. European Commission sets very detailed and (4) _____ requirements concerning import of organic products from third countries. Regulation applies to (5) _____ or unprocessed agricultural products, including aquaculture and yeast.

In Commission Regulation all levels of plant and animal production are regulated, from the

(6) _____ of land and keeping of animal to the processing, (7) _____ and distribution of organic foods and their control. They go into great technical detail and cover products such as yeast, wine, mushrooms and products determined by the regulation, which include fertilizers, soil conditioners and pesticides.

Points: ____/7

C. Fill in the blanks in the following paragraph with appropriate words from the box. Do not change the form of the words. There are three extra words.

comprehensive	guideline	suspension	periodical	initiate	
acknowledgment	prior	administrative	notable	option	
humble					

Today, we will have a presentation from a/an (1) _____ scientist. Jane Jones, despite coming from a/an (2) _____ background, graduated from Cambridge University and is currently head of research and development at an international medical equipment company.

(3) _____ to that, she worked for the World Health Organization. Jane has also published a number of papers, including a report on the prevention of childhood disease in developing countries, which the World Health Organization has adopted as a (4) _____ document for use in its fight against such diseases. At 45, she already has a/an (5) _____ list of achievements in the field of medical science and continues to make (6) _____ visits to countries in the third world to assist health organizations there. We want to begin this presentation with, first of all, a/an (7) _____ of all Jane's wonderful achievements. The presentation will take approximately twenty minutes, after which you will have the (8) _____ of staying for a question and answer session with Jane about her work and accomplishments.

Points: ____/8

D. Fill in the blanks in the following sentences with appropriate words from the box. Do not change the form of the words. There are three extra words.

basis	indefinite	regard	regardless	prohibit	absolutely
reverse	multiple	bound	outbreak	outcome	incident
					stem

1. The government introduced laws which _____ tobacco advertisements on TV.
2. Many local people _____ the idea of a motorway through their village with horror.
3. Every interview is a new exciting experience so you're _____ to feel nervous about your interview.
4. To stop the engine, you repeat the same procedures, but in _____ order.
5. Authorities have observed a(n) _____ of cholera in the country and they are taking some precautions.

6. The project has been postponed for a(n) _____ period so we don't know when it will be held yet.
7. We made _____ copies of the document so we can distribute to everyone in the room.
8. You must be _____ silent or the birds won't appear.
9. The plan for a new office tower went ahead _____ of local opposition.
10. This document will form the _____ for our discussion so we will highly depend on it.

Points: ____/10

E. Fill in the blanks in the following sentences with appropriate words from the box. Do not change the form of the words. There are three extra words.

manipulate	specialize	candidates	appoint	slightly	proud
virtual	related	namely	reinforced	undertake	

1. His success is partly due to his ability to _____ the media.
2. There are plenty of qualified _____ for the job, so there is no chance for me to get the job.
3. Car ownership is a _____ necessity when you live in the country.
4. We were able to _____ a committee to consider the plans in detail.
5. This report strongly _____ the view that the system must be changed
6. Experts believe that the large numbers of cancer cases in the area are directly _____ to the new nuclear power station.
7. Jack is such a humble person that he doesn't like being _____ of himself even though he does amazing projects.
8. January's sales were _____ better than average but there wasn't a big difference.

Points: ____/8

F. Fill in the blanks with the correct forms of the words given in the parenthesis. The answers with spelling mistakes will be scored as “0 (zero)”.

Example: Long-term changes in the **__timing__** of autumn migration in birds have been investigated. **(TIME)**

1. AIDS is a/an _____ disease as there is still no treatment found for it. **(CURE)**

2. All I remember of childbirth was the _____ pain and the relief when it was all over. **(BEAR)**

3. He tried to _____ immigration officials and entered the country illegally. **(BRIBERY)**

4. I don't like my boss' _____ attitude towards the workers because it creates an unsafe atmosphere. **(THREAT)**

5. The doctor couldn't come up with a _____ of the disease so we saw another one. **(DIAGNOSE)**

6. The United Nations passed a _____ to increase aid to the Third World. **(RESOLVE)**

7. He wanted to _____ from the company in order to take a more challenging job. **(RESIGNATION)**

8. I'm not _____ dressed for this sort of weather so I feel cold. **(PROPER)**

9. She _____ accepted to help me as she was very busy. **(RELUCTANCE)**

10. The newspapers gave a very _____ report of the meeting as they only present the ideas they support. **(BIAS)**

Points: ____/10

G. The word in capitals at the end of each of the following lines can be used to form a word that fits in the blank space in the text. Fill in each space in this way. The answers with spelling mistakes will be scored as “0 (zero)”.

Example: My assignment was (0) unsatisfactory. (0)SATISFY

<p>Finding the right job for you can be frustrating. Although you may have graduated from a reputable university, it does not (1) _____ that you will be employed immediately. It can be a daunting and</p> <p>(2) _____ process, especially if you have not been even shortlisted after many attempts. Don’t panic. What you can do is to gain some (3) _____ in your field by looking for internships or part-time jobs to make the transition easier. Employers prefer people with (4) _____ experience and knowledge. Additionally, you can try enlisting in public speaking or language courses to enhance your</p> <p>(5) _____. After some time, you may even decide to do a postgraduate study. People that say “you should start making money” may (6) _____ you. Try not to listen to them. Do what is best for you and listen to your heart.</p>	<p>(1) GUARANTEED</p> <p>(2) TROUBLE</p> <p>(3) EXPERT</p> <p>(4) SUFFICE</p> <p>(5) COMPETENT</p> <p>(6) SURROUNDING</p>
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Points: ____/6

H. The word in capitals at the end of each of the following lines can be used to form a word that fits in the blank space in the text. Fill in each space in this way. The answers with spelling mistakes will be scored as “0 (zero)”.

Example: My assignment was (0) unsatisfactory. (0)SATISFY

<p>Body language is a form of non-verbal communication, which consists of body posture, gestures, (1) _____ expressions,</p>	<p>(1) FACE</p>
--	------------------------

<p>and eye movements. Without much control humans send and interpret such signals (2) _____. John Borg claims that human communication consists of 93% body language and paralinguistic cues, while only 7% of communication consists of words themselves; however, Albert Mehrabian, the researcher whose 1960s work is the source of these statistics, has stated that this is a misunderstanding of the (3) _____. Others assert that "Research has suggested that between 60 and 70 percent of all meaning is from nonverbal (4) _____. Body language may provide clues as to the attitude or state of mind of a person. For example, it may indicate aggression, attentiveness, (5) _____, relaxed state, pleasure, amusement, and intoxication, among many other cues. The technique of "reading" derived people is used frequently. For example, the idea of mirroring body language to put people at ease is commonly used in interviews. Mirroring the body language of someone else (6) _____ that they are understood. Body language signals may have a goal other than communication. Both people would keep this in mind. (7) _____ limit the weight they place on non-verbal cues. Signalers clarify their signals to indicate the (8) _____ origin of their actions. Examples would include (9) _____, showing lack of sexual interest or (10) _____ interest, attempts to change the topic.</p>	<p>(2)CONSCIOUS</p> <p>(3)FIND</p> <p>(4)BEHAVE</p> <p>(5)BORE</p> <p>(6)INDICATION</p> <p>(7)OBSERVE</p> <p>(8)BIOLOGY</p> <p>(9)SLEEP</p> <p>(10)SURVIVE</p>
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Points: ____/10

I. The words in capitals at the end of each of the following lines can be used to form a word that fits in the blank space in the text. Fill in each space in this way. The answers with spelling mistakes will be scored as “0 (zero)”.

Example: My assignment was (0) unsatisfactory. (0)SATISFY

<p>HUMAN RIGHTS</p> <p>The human rights movement emerged in the 1970s, especially from former socialists in eastern and western Europe, with major (1) _____ also from the United States and Latin America. The movement quickly jelled as social activism and (2) _____ rhetoric in many nations put it high on the world agenda. Samuel Moyn has (3) _____ that the human rights movement expanded beyond its original anti-totalitarianism to include numerous causes involving humanitarianism and social and (4) _____ development in the Third World.</p> <p>Many of the basic ideas that animated the movement developed in the aftermath of the Second World War, culminating in its (5) _____ by the Universal Declaration of Human Rights by the United Nations General Assembly in 1948. While the phrase "human rights" is (6) _____ modern, the intellectual foundations of the modern concept can be traced through the history of philosophy and the concepts of natural law rights and liberties as far back as the city states of Classical Greece and the (7) _____ of Roman Law. The true forerunner of human rights discourse was the enlightenment concept of (8) _____ rights developed by figures such as John Locke and Immanuel Kant and through the political realm in the United States Bill of Rights and the Declaration of the Rights of Man and of the Citizen.</p>	<p>(1) CONTRIBUTE</p> <p>(2) POLITICS</p> <p>(3) ARGUMENT</p> <p>(4) ECONOMY</p> <p>(5) ADOPT</p> <p>(6) RELATIVE</p> <p>(7) DEVELOP</p> <p>(8) NATURE</p>
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Points: _____/8

TOTAL SCORE: _____/80

APPENDIX B

INTERVIEW QUESTIONS

INTERVIEW FORM

Hello. I conduct this interview to find out the effects of using mobile-based and paper-based vocabulary Notebooks on Vocabulary Achievement in English language learning. I believe that your ideas and suggestions will contribute to this process. The information give in this interview will be only used in this study and the personal information will be kept confidential. I think this interview will take approximately 15 minutes. If there is anything you want to ask before the interview, I want to answer now.

Questions:

1. Did you keep mobile-based vocabulary notebooks on Quizlet regularly?
Why, Why not?
2. Do you think that using a mobile application while keeping vocabulary notebook is useful and beneficial? Why? Why not?
3. What do you think are the positive and negative sides of using a mobile application while keeping vocabulary notebooks?
4. Do you think that keeping a mobile-based vocabulary notebook is a good method while studying vocabulary? Why/ Why not?
5. Do you have any other ideas to share about using mobile-based vocabulary notebooks? If yes, what are they?

APPENDIX C

PARTICIPANT CONSENT FORM FOR INTERVIEW

The name of the researcher: Özlem Zengin Ünal

The Affiliation: Bilkent University School of English Language

“the Effects of Using Mobile-Based and Paper-Based Vocabulary Notebooks on Vocabulary Achievement in English Language Learning”

This research study aims to find out the effects of using mobile applications while keeping vocabulary notebooks on vocabulary achievement level in English language learning. As part of this study, a semi-structured interview will be conducted with some students at the end of this study. Participation in this interview is voluntary. This interview will take approximately 15 minutes and you will be asked 5 questions about using mobile-based vocabulary notebooks. If you agree to participate in this interview, the information you give during this interview may be used in the study and in the analysis of this thesis work. Moreover, without sharing the names of the participants, the results of the analysis may be presented in any national or international scientific conferences as part of this thesis work. Your names and the information will be kept confidential and will not be shared with any third parties. Your participation and the information you share in this interview will help the researcher to have more ideas about the students’ perceptions on keeping mobile-based vocabulary notebooks.

If you agree to participate in this interview, please write your name in the space below and sign.

Thank you for your co-operation.

If you have any further questions regarding this study, please feel free to contact the researcher with the following contact information:

Özlem ZENGİN ÜNAL

Bilkent University School of English Language

D Building Z 16

Tel no: 03122905342

E-mail: zengin@bilkent.edu.tr

I have been informed about the aim of this research study and I volunteer to participate in this interview.

Date: _____

Name: _____

Signature: _____

APPENDIX D

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

DUMLUYINAR BULVARI 06550
ÇANKAYA ANKARA/TÜRKİYE
T. +90 312 210 22 31
F. +90 312 210 79 33
ueam@metu.edu.tr
www.ueam.metu.edu.tr

Sayı: 28620816/71-165

16.02.2015

Gönderilen : Prof. Dr. Meral AKSU
Eğitim Bilimleri Bölümü

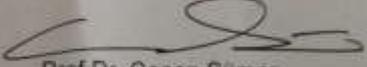
Gönderen : Prof. Dr. Canan Sümer 
IAK Başkan Vekili

İlgi : Etik Onayı

Danışmanlığını yapmış olduğunuz Eğitim Bilimleri Bölümü öğrencisi
Özlem Zengin Ünal'ın "The Effects of Using Mobile-Based and Paper-
Based Vocabulary Notebooks on Vocabulary Achievement in English
Language Learning" isimli araştırması "İnsan Araştırmaları Komitesi"
tarafından uygun görülerek gerekli onay verilmiştir.

Bilgilerinize saygılarımla sunarım.

Etik Komite Onayı
Uygundur
16/02/2015


Prof. Dr. Canan Sümer
Uygulamalı Etik Araştırma Merkezi
(UEAM) Başkan Vekili
ODTÜ 06531 ANKARA

APPENDIX E

TURKISH SUMMARY

GİRİŞ

Teknolojinin hızla gelişmesi ve yaygınlaşması İngilizce eğitim ve öğretimini de büyük ölçüde etkilemiştir. Akıllı telefon ve Ipad gibi mobil araçlara olan yoğun taleple birlikte mobil öğrenme yabancı dil eğitiminde etkili olmaya başlamıştır. Son yıllarda öğrencilerin teknoloji ve internete olan eğilimleri göz önüne alındığında, öğretmenlerin öğrenme sürecini teknolojik araçlarla desteklemeleri gerektiği anlaşılmıştır. Öğrencilerin günlük hayattaki alışkanlıkları göz önünde bulundurularak, ihtiyaçlarını daha iyi karşılayıp dolayısıyla öğrenme kalitesini artırmak için, öğrenme süreci onların günlük yaşam biçimlerine göre şekillendirilebilir. Öğrencilerin teknolojiyi günlük hayatlarında sık kullanmaları, beraberinde Bilgisayar destekli dil öğrenimi yaklaşımı getirdi (Weinstein & Palmer, 2002). Bu yaklaşım, öğrenme, dil öğrenmeyi sınıf içi ve dışı teknoloji destekli çeşitli aktiviteler sağlayarak olumlu yönde etkilemiştir. Örneğin bloglar kullanarak öğrenciler çevrimiçi yazma becerilerini geliştirebilir ya da Skype kullanarak öğretmenlerinden sınıf dışı çevrimiçi yardım alabilirler. Bunlar gibi çevrimiçi kullanılan araçların yanısıra, bazı eğitsel oyunlar da öğretim programlarına eklenmiştir. Bunun sonucunda da oyun tabanlı dil öğrenimi ortaya çıkmıştır. Ayrıca son zamanlarda tablet ve akıllı telefon gibi mobil aletlerin yaygın kullanımı da, Mobil destekli dil öğrenme yaklaşımını ortaya çıkarmıştır. Mobil destekli dil öğrenme yaklaşımı, öğrenmenin mobil aletler kullanımıyla daha da etkili olacağını savunmaktadır. Mobil öğrenme içeriğin cep telefonları, akıllı telefonlar ya da benzer taşınabilir mobil aletler kullanılarak öğretilmesi anlamına gelir.

Kelime öğrenme, okuma, dinleme, konuşma ve yazma becerilerinde gerekli olduğundan, dil öğreniminde önemli bir yere sahiptir. Wilkin (1972)'in dediği gibi “Dil bilgisi olmadan çok az şey anlaşılır fakat kelime bilgisi olmadan hiçbir şey

anlaşılabilir” (p.153). Yeterli kelime bilgisine sahip olma, etkili dil öğreniminin en temel taşıdır. Kelime öğrenimi dolaylı edinim ya da doğrudan öğretim yöntemleriyle meydana gelir. Dolaylı edinim de öğrenci öğrenme sürecinin farkında değildir, fakat direkt öğretme de kelime sistematik bir şekilde bilinçli olarak öğretilir.

Kelime çalışmak dil öğreniminde büyük bir yere sahip olsa da, İngilizce öğrenimi ve öğretiminde sahip olduğu önem göz ardı edilmektedir. Fakat, teknolojinin yardımıyla, kelime öğrenmenin önemini artıran bir takım girişimler vardır.

Öğrenciler sınıfta yapılan kelime çalışmalarının yeterli olmadığını düşünüyorlar. Koren’e göre (1990) sınıf içi aktiviteler etkili öğrenme için yeterli değildir ve okul dışında fazladan alıştırmalar yapılmalıdır. Bu yüzden, kelime bilgisini artırmak için öğrenciler sınıf dışında da çalışmalıdır. Teknolojinin ve mobil destekli dil öğrenme yaklaşımının yardımıyla mobil öğrenme sayesinde öğrenciler sınıf dışında daha fazla kelime çalışma fırsatı bulacaklardır.

Araştırmanın Amacı: Bu çalışma İngilizce öğrenirken mobil kelime defteri ve kelime defteri tutan öğrencilerin kelime başarı seviyelerindeki farkları bulmaya çalışmaktadır. Çalışmada ön test-son test kontrol grubu yarı deneysel dizayn kullanıldı ve mobil kelime defteri tutmanın İngilizce’deki kelime başarısına olan etkileri, mobil kelime defteri ve kelime defteri tutan iki gruba karşılaştırılarak bulmaya çalışıldı.

YÖNTEM

Bu çalışmada aşağıdaki sorular cevaplanmaya çalışıldı:

1. Mobil kelime defteri ve kelime defteri tutan öğrencilerin kelime başarıları arasındaki fark nedir?
2. Mobil kelime defteri hakkında öğrencilerin algıları nelerdir?

Bu araştırma sorularına göre bu çalışmadaki hipotez şudur:

H0: Mobil kelime defteri ve kelime defteri tutan öğrencilerin kelime başarıları arasında önemli bir fark yoktur.

Bu çalışmada ön test son test control grubu yarı deneysel yöntem kullanıldı. İlk araştırma sorusunu cevaplamak için ön test son test control grubu, ikinci soruyu cevaplamak ve mobil kelime defteri tutmak hakkında daha derin bilgilere ulaşmak içinse yarı yapılandırılmış mülakatlar yapıldı.

Çalışılan Ortam: Bu çalışma Bilkent Üniversitesi İngiliz Dili Meslek Yüksek Okuluna bağlı İngilizce Hazırlık programında yapılmıştır. Hazırlık Okulundaki öğrenciler, en son seviye olan Bölüm Öncesi seviyeyi başarılı bir şekilde bitirip, COPE (Hazırlık Muafiyet Sınavı)'u başarılı bir şekilde geçerek bölümde öğrenci olma hakkına sahip olabiliyorlar. Bölümlerin çoğunda eğitim dili İngilizce olduğundan, buradaki öğrenciler için İngilizce öğrenmek bir gereksinimdir. Hazırlık Okulunda her bir kurs genellikle 8 hafta sürmektedir ve kurs amaçlarını karşılamak için her bir seviyede farklı yayınevlerine ait kitaplar kullanılmaktadır. Öğrenciler seviyelerine bağlı olarak haftada 15 ya da 30 saatlik ders almaktadırlar ve her bir sınıfın ortalama olarak 2 ya da 3 İngilizce öğretmeni vardır. Bu öğretmenler arasında herhangi bir görev dağılımı yoktur ve tüm dil becerilerini öğretmekle sorumludurlar. Ayrıca başarılı bir şekilde üst kura geçebilmek için öğrencilerde 90% devam zorunluluğu aranmaktadır.

Çalışma Grubu: Bu çalışmadaki katılımcılar Bilkent Üniversitesi İngiliz Dili Meslek Yüksek Okuluna bağlı hazırlık programındaki bölüm öncesi İngilizce kurunda okuyan, yaşarı 18 ile 20 arasında değişen öğrencilerden seçilmiştir. Bu öğrenciler iki grup halinde bu çalışmaya katılmıştır. Her grupta 20 şer öğrenci ve toplamda 40 öğrenci vardır. Kontrol grubu, kurumda sürekli yapılan kelime defteri tutmuştur. Deney grubu ise bu kelime defterlerini Quizlet adındaki mobil uygulamayla tutmuşlardır.

Uygulama Materyalleri: Bu çalışmada veri toplamak için Quizlet mobil uygulaması ve kelime defteri kullanılmıştır. Quizlet, öğrencilere birçok kelime etkinliği ve oyunu sunan, dünya çapında yaygın mobil ve web tabanlı bir öğrenme aracıdır. Ücretsiz bir şekilde akıllı telefonlara indirilebilir ve öğrenciler tarafından kolaylıkla kullanılabilir.

Kelime defteri öğrencilerin öğrendikleri kelimeleri kaydettikleri, kişisel bir sözlüktür. Bu deftere öğrenilen kelimeler diğer biçimleriyle kaydedilebilir (Schmitt & Schmitt, 1995). Bu çalışmada hem defter üzerinde, hem de Quizlet aracılığıyla iki türlü kelime defteri tutulmuştur.

Veri Toplama Araçları: Bu çalışmada nicel veriler 80 sorudan oluşan bir kelime testi ve nitel veriler de 5 sorudan oluşan mülakatlarla toplanmıştır. Yapılan kelime testi sözcük eşleştirme, boşluk doldurma ve kelime biçimlerini yazma olmak üzere üç farklı soru tipi içermektedir. Bu testi uygularken öğrencilere 90 dakika süre verilmiştir. Nitel veri toplamak için deney grubundan beş öğrenciyle, çalışma sonunda mülakat yapılmıştır. Bu mülakatların amacı, öğrencilerden mobil kelime defteri hakkında daha detaylı bilgi toplamaktır.

Verilerin Analizi: Nicel veriler Karma Varyans analizi ve Mann Whitney U test kullanılarak analiz edilmiştir. Bu çalışmada her grupta 20 öğrenci vardır. Varyans analizi yapılabilmesi için gruptaki en düşük katılımcı sayısı 20 dir. Fakat, Karma Varyans analizinde olasılıkları kontrol ederken, bazı testlerde çok küçük değişiklikler çıktığı için, Mann Whitney U test'i de uygulanmıştır.

Her iki test de yapılmadan önce, testlerin ortalamaları ve standard sapmaları belirlenmiş, ardından olasılıklar kontrol edilmiştir. Karma Varyans analizi yaparken, öncelikle ön testlerde iki grupta fark olup olmadığına bakmak için bağımsız t testi uygulandı. Ardından, her iki gruptaki ilerleme Karma Varyans analizi ile analiz edildi. Son olarak da iki grup arasında etkileşim olup olmadığı grafik analiziyle incelenmiştir.

Mann Whitney U testi uygulanırken de yine olasılıklar kontrol edildi ve her iki gruptaki ön test sonuçlarının benzerliği incelendi. Sonra, yine aynı şekilde son test sonuçları karşılaştırıldı ve iki grup arasında fark olup olmadığına bakıldı.

Bu çalışmada nicel veriler SPSS 22.0 istatistik paketiyle analiz edildi ve istatistiksel kritik değer .05 olarak belirlendi. Nitel veriler de mülakatlar yoluyla toplandı ve araştırmacı tarafından içerik analiziyle incelendi.

BULGULAR

Bu çalışma İngilizce öğrenirken mobil kelime defteri ve kelime defteri tutan öğrencilerin kelime başarıları arasındaki farkları incelemiştir ve öğrencilerin mobil kelime defteri hakkındaki algılarını araştırmıştır. Bu yüzden hem nicel hem de nitel veriler toplanmıştır.

Nicel veriler ilk olarak Karma Varyans analizi ile analiz edilmiştir. Karma Varyans analizi yapmadan önce de normallik, değişkenlerin homojenliği gibi olasılıklar kontrol edilmiştir. SPSS kullanılarak yapılan bu olasılık testleri, genel olarak düzenli çıktı ancak bazı küçük farklılıklardan dolayı Mann Whitney U test ile de aynı nicel veriler analiz edilmiştir.

Karma Varyans analizinden önce, iki grup arasında fark olup olmadığına bakmak için bağımsız t testi uygulanmış ve sonucunda kontrol (Ort= 21.25, SS= 5.19) ve deney (Ort= 20.5, SS= 5.83) grubu arasında önemli fark çıkmamıştır; $t(38) = -.43, p = .67$

Karma Varyans analizi sonucuna göre, her iki grup arasında önemli bir etkileşim vardır, $F(1, 38) = 19.64, p < .05$. İki grup arasında önemli bir etkileşim bulduğumuz için post-hoc analizine devam edilmedi. Aradaki etkileşimi detaylı incelemek için plot analizi yapıldı. Plot analizine göre ön test te mobil kelime defteri (Ort= 20.5) ve kelime defteri (Ort= 21.25) tutan grupların ortalama sonuçları birbirine yakındır. Son test sonuçlarına bakıldığında, mobil kelime defteri (Ort: 69.40) tutan grubun kelime defteri (Ort: 58.70) tutan gruptan daha yüksek ortalamaya sahip olduğu görülmektedir. Tüm bu sonuçlara bakılarak, mobil kelime defteri tutan grup daha yüksek son test sınav ortalamasına sahiptir.

Mann Whitney U testi uygularken önce ön testte iki grup arasında önemli bir fark olup olmadığına bakıldı. Ön test ortalama sonuçlarına göre kontrol (Ort= 21.25, SS= 5.19) ve deney (Ort= 20.5, SS= 5.83) grupları arasında önemli bir fark yoktur. Ardından son test sonuçları bu testle analiz edildi. Buna göre, kontrol (Ort= 58.70, SS= 9.64) ve deney (Ort: 69.40, SS= 6.44) grupları arasında son testlerde önemli bir fark bulundu. Yani deney grubundaki öğrencilerin kelime başarıları kontrol grubundaki öğrencilerden daha fazladır.

Görüldüğü gibi ön ve son testlerden elde edilen nicel veriler hem Karma Varyans analizi hem de Mann Whitney U testi ile analiz edildiğinde, her ikisinde de bulunan sonuçlar birbirine benzerdir ve birbirini desteklemektedir. Böylece, bu araştırmadaki hipotezimiz reddedilmiştir ve mobil kelime defteri tutan ve kelime defteri tutan grupların kelime başarıları arasında önemli bir fark bulunmuştur. Sonuç olarak, deney grubundaki öğrencilerin test sonuçlarının ortalaması control grubundakilerden önemli bir şekilde fazladır.

Elde edilen nitel veriler, içerik analiziyle incelenmiştir. Mobil kelime defteri tutan beş öğrenciyle yapılan mülakatlarda, mobil kelime defteri faydalı bulundu. Bu mülakatlarda kullanılan soruların herbiri mobil kelime defterinin farklı yönlerini açığa çıkarmaya yöneliktir. İlk soru öğrencilerin Quizlet üzerinden mobil kelime defterini düzenli tutup tutmadıklarıyla ilgilidir. Bu soruda, bir öğrenci dışında herkes düzenli mobil kelime defteri tuttıklarını belirtti. Düzenli tutmayan öğrenci de zaten kurs için gerekli geçme puanını topladıktan sonra düzenli tutmayı bıraktığını belirtti. İkinci soru öğrencilerin mobil uygulama yoluyla kelime defteri tutmayı yararlı bulup bulmadıkları hakkındaydı. Bu soruda, bütün öğrenciler mobil kelime defteri tutmanın yararlı olduğunu belirtti. Üçüncü soru kelime defteri tutarken mobil uygulama kullanmanın olumlu ve olumsuz yönleri hakkındaydı. Olumlu yönleri olarak öğrenciler kullanışlı, zaman kazandırıcı, günlük hayatlarındaki alışkanlıklarına daha yakın olması, ekstra kelime aktivitelerinin oluşturulması ve İngilizce aksanlarını geliştirmelerine yardımcı olmasından bahsettiler. Olumsuz yönleri olarak da bazen uygulamaya kelimeleri girerken zorlandıklarından bahsettiler. Dördüncü soru mobil kelime defteri tutmanın iyi bir kelime öğrenme yöntemi olup olmadığı hakkındaydı. Bu soruda öğrencilerin çoğu akıllı telefonlarını her zaman yanlarında taşıdıkları için, daha çok kelime çalıştıklarını belirttiler. Son soru öğrencilerin mobil kelime defteri tutmayla ilgili olarak önerilerine yönelikti. Öğrenciler genel olarak mobil kelime defterinin bu çalışmadaki uygulanış şekline memnun kalmışlardır. Fakat bazı öğrenciler her hafta 20 kelime verilmesinin, onlar için çok kolay geldiğini belirttiler.

Yukarıda araştırmada elde edilen veriler paylaşılmıştır. Bir sonraki bölümde bu veriler yorumlanarak tartışılacaktır.

TARTIŞMA

Bu çalışmadaki araştırma soruları çalışmanın bulgularını yönlendirdi. Tartışma bölümü öncelikle bulguların özetini verirken, ardından önceki çalışmalarla kıyaslamalar yaparak bu çalışmayla ilgili bilgiler vericektir.

İlk araştırma sorusu mobil kelime defteri ve kelime defteri tutan öğrencilerin kelime başarıları arasındaki farkları bulmaya çalıştı. Bu soru Karma Varyans analizi ve Mann Whitney U test ile cevaplanmaya çalışıldı. Çalışmanın başında, her iki grup da benzer kelime bilgilerine sahipti. Fakat son kelime testine göre mobil kelime defteri tutan ve kelime defteri tutan öğrencilerin kelime başarıları arasında önemli bir fark vardır. Yani, mobil kelime defteri tutan grup, kelime defteri tutan gruba göre kelime bilgilerini daha fazla geliştirmişlerdir.

Lewis (2002)'in de dediği gibi, kelime defteri tutmak öğrencilere her bir kelimeyi tekrar etme fırsatı sunduğu ve böylece bu kelimelerin zihinlerinde aktifleştirmelerini sağladığı için, etkili bir yöntemdir. Bu çalışmada görüldüğü gibi her iki grup da kelime bilgilerini geliştirdi. Buradan kelime defteri tutmanın zaten kelime bilgisini geliştirdiğini söyleyebiliriz. Fakat bu çalışmada mobil kelime defteri tutan grup kelime bilgilerini daha fazla geliştirdi ki bu da mobil öğrenmenin kelime öğrenme sürecine sağladığı fayda ile açıklanabilir.

Literatürde kelime defteri tutarken mobil uygulamaların uygulandığı çalışmalar sınırlı olduğu için, bu çalışmayı benzer çalışmalarla kıyaslamak mümkün olmamıştır. Fakat bu çalışmadaki sonuçlar, kelime öğrenme ya da İngilizce'deki herhangi bir beceri öğreniminde mobil uygulamaların kullanıldığı çalışmalardaki sonuçlarla kıyaslandı.

Song (2008) 'un çalışmasında kelime öğrenme kısa mesaj kullanımıyla kıyaslandı. Bu çalışmanın sonucuna göre, katılımcıların kelime bilgileri artmıştır. Pei-Lin ve Chiu- Jung (2015)'un çalışmalarına göre, control grubu çevrimiçi olarak sözcüksel okuma, deney grubu da bunu cep telefonlarıyla fotoğraf çekerek yaptılar. Bu çalışmanın sonucuna göre, fotoğraf çekerek sözcüksel okuma yapan grup ertelenmiş testte daha başarılı olmuştur. Çavuş ve İbrahim (2009)' in çalışmasında, kısa mesaj sistemine benzer olan MOLT sistemi bazı teknik kelimeleri öğretmek için kullanıldı. Bu çalışmanın sonucuna göre öğrenciler hedef kelimeleri bu mesaj sistemi

sayesinde daha kolay öğrenebildiler. Attewell (2005) in yabancı dil öğrenen öğrencileri motive etmeyi amaçlayan mobil öğrenme projesi üzerine olan çalışmasında, birçok öğrenci okuduğunu anlama ve heceleme becerilerini geliştirdiler. Ayrıca öğrenciler okuma çalışırken, mobil aletleri kullanmaya devam edeceklerini belirttiler.

Diğer bir yönden, mobil öğrenmenin öğrencilerin başarılarını arttırmadığını ya da değiştirmedğini gösteren çalışmalar da bulunmaktadır. Örneğin Stockwell (2007) in çalışmasının sonucuna göre cep telefonları aracılığıyla mobil kelime öğrenme, masaüstü bilgisayarlar kullanılarak yapılan kelime öğrenmeden daha avantajlı değildir. Her iki grupta bulunan öğrencilerin kelime başarıları arasında önemli bir fark bulunmamıştır.

Bu çalışmadaki ikinci araştırma sorusu öğrencilerin mobil kelime defteri tutmak hakkındaki düşüncelerini incelemiştir. Bu soru için gereken veriler, mülakatlar yapılarak toplanmıştır. Bu mülakatlarda mobil kelime defteri kullanmanın farklı yönlerini içeren beş soru sorulmuştur. Öğrencilerden alınan cevaplar olumlu yöndedir ve hepsi mobil kelime defteri tutmanın faydalı olduğunu belirtmiştir.

Bu çalışmayla benzer şekilde sonuçları olan başka çalışmalar da vardır. İlk olarak Ring (2001) in çalışmasında, kurs içeriği, kurstaki mini testler ve hatırlatmalar öğrencilere cep telefonları yoluyla gönderilmiştir ve bunun sonucuna göre tüm katılımcılar mobil öğrenmenin kursu zenginleştirdiğini belirttiler. Aynı şekilde Saran, Çağıltay ve Seferoğlu (2008) nun çalışmasının sonucuna göre öğrenciler cep telefonu kullanarak kelime çalışmaktan memnun olduklarını belirttiler. Benzer bir şekilde yine Houser ve Thornton (2001)'un çalışmasında bir çok öğrenci öğretim yöntemi olarak masaüstü bilgisayarlar yerine cep telefonlarının kullanılmasına devam edilmesini istediler.. Basoglu ve Akdemir (2010)'in çalışmasında İngilizce kelime öğrenmede mobil aletler ve flaş kartlar karşılaştırılmıştır. Bu çalışmanın sonucuna göre mobil aletlerle kelime çalışan öğrenciler daha iyi sonuçlar aldılar ve bu öğrenciler kelime öğrenme sürecinde mobil aletlerin kullanılmasından memnun olduklarını belirttiler.

Bu çalışmaların dışında, öğrencilerin mobil öğrenmeyi faydalı bulmadıkları çalışmalar da vardır. Okunbor ve Retta (2008) öğrenci öğrenmesini geliştirmek için

cep telefonlarını kullanarak bir çalışma yaptılar. Bu çalışmanın sonucunda mobil uygulamaların öğrenmede kullanılmasını öğrenciler faydalı bulmadı.

Bu çalışmada öğrenciler genel olarak, her zaman erişilebilir olmasını ve günlük yaşamlarındaki alışkanlıklarıyla uyumlu olmasından dolayı mobil kelime defteri tutmanın kelime defteri tutmadan daha elverişli olduğunu belirttiler. Bunların dışında Quizlet uygulamasının girdikleri kelimelerle onlar için otomatik olarak kelime aktiviteleri oluşturması ve kelimeleri İngilizce aksanlarıyla telaffuz etme özelliğinin olması öğrenciler için mobil kelime defteri tutmanın bazı avantajlarıydı.

Çalışmada elde edilen sonuçlar literatürdeki teorilerle de uyumludur. Örneğin Bilişsel yük teorisine göre öğrenme sürecindeki girdilerin kısa süreli hafızadan uzun süreli hafızaya rahatça aktarılabilmesi için, basit tutulmalıdır (Sweller, van Merriënboer, & Paas, 1998). Ayrıca uzun süreli hafızada tutulmaları ve kaybolmamaları için hedef bilgiler kısa süreli aralıklarla tekrar edilmelidir. Bu çalışmada öğrenciler her hafta 20 kelime girdikleri ve Quizlet sayesinde ekstra kelime aktiviteleri yaptıkları için, mobil kelime defteri tutan grup daha fazla kelime başarısı göstermiştir.

Öğrencilerden gelen tüm bu olumlu yorumlara rağmen, kimi öğrenciler Quizlet'e kelime girerken sorun yaşadıklarını belirttiler. Bu tarz teknik problemler Thornton ve Houser (2001)'in çalışmasında da belirtilmiştir.

Bu çalışmadaki son test sonuçlarına göre mobil kelime defteri tutan grup kelime bilgilerini kelime defteri tutan gruba göre daha fazla geliştirdiler. Öğrencilerin mobil kelime defteri hakkındaki düşünceleri göz önüne alındığında, hepsinin mobil kelime defteri kullanmaktan memnun olduğu söylenebilir. Öğrenciler mobil kelime defteri tutmanın faydalı ve motive edici olduğunu belirttiler. Ayrıca, akıllı telefonların taşınabilirlik, erişilebilirlik gibi özelliklerinden de bahsettiler. Tüm bunlar göz önüne alındığında, İngilizce dil kurslarına öğretim dizaynı olarak mobil aletler kullanılarak mobil öğrenme entegre edilebilir. Bu şekilde, öğrencilere sınıf dışında da birçok aktivite sunulabilir. Bu çalışmada da olduğu gibi mobil destekli materyallerle, öğrenciler daha fazla kelime tekrarı aktiviteleri yapabilirler. Günümüzdeki genç neslin bir çoğu teknolojinin içine doğduğu için, mobil cihazlar onların günlük yaşamlarının ayrılmaz bir parçasıdır. Bu yüzden onların ihtiyaçlarına

daha etkili bir şekilde cevap verebilmek adına sınıf dışı aktivitelere mobil cihazlar entegre edilebilir.

Mobil cihazlar öğrenme ve öğretme sürecine eklenirken, dikkat edilmesi gereken bazı hususlar bulunmaktadır. İlk ve en önemli olan nokta öğrencilerin hazırbulunuşluluğudur. Mobil cihazlar öğrenme sürecine eklenirken, kurumsal imkanlar ve öğrencilerin bireysel bilgileri göz önüne alınmalıdır.

Günümüzdeki yabancı dil öğrenen öğrencilerin ihtiyaçları ve bireysel bilgileri göz önüne alındığında, öğrenme ortamları ve öğretim programları mobil öğrenme prensipleriyle yeniden düzenlenmelidir. Sınıf içi ve dışı aktiviteler, öğrencilerin motivasyonunu da artırmak için daha fazla mobil destekli materyaller içermelidir. Bunlar yapılırken de bilişsel yük ya da iki kanallı öğrenme teorileri göz önünde bulundurulmalıdır. Ayrıca, öğretimsel tasarımlara teknoloji eklenirken, öğrenciler üzerinde teknik bilgilerin ekstra bir yük oluşturmamasına dikkat edilmelidir. Çünkü, eğer teknik bilgiler hedef bilgilerden daha baskın olursa, öğrencilerin bilişsel süreçleri olumsuz olarak etkilenir.

Son olarak da öğrenme sürecine teknoloji eklenirken, öğrencilerin dışında öğretmenler de düşünülmelidir. Öğretmenlerin de teknoloji kullanmadaki istekliliği ya da yeterliliği en az öğrenciler kadar önemlidir. Bu yüzden öğretmenlere de hedef mobil cihazların kullanımı hakkında gerekli eğitim verilmeli ve onlar da mobil teknoloji kullanmanın yararına inanmalıdır.

Günümüzde yabancı dil öğrenen öğrencileri düşündüğümüzde, teknolojinin öğrenme ve öğretme süreçlerine eklenmesi, bu öğrencilere daha iyi ulaşmak ve ihtiyaçlarını karşılamak için bir zorunluluk haline gelmiştir. Bu yüzden İngilizce öğretmenleri, öğretim görevlileri, okutmanlar, araştırmacılar ve materyal geliştirenler kurslara ya da materyallere daha fazla teknoloji eklemeye çalışmalıdır. Bu şekilde, öğretim programları ve değerlendirmesi de teknolojiyle desteklenmelidir.

Bu çalışmada mobil kelime defteri ve kelime defteri kullanma arasındaki fark kelime edinimini ölçen ön ve son kelime testleriyle incelendi. Bir sonraki çalışmalarda kelime kullanımı ölçümleri de bu süreçte eklenmelidir.

Bazı öğrenciler her hafta girilen 20 kelimenin onlar için yeterli olmadığını belirttiği için, son testteki başarılarının nasıl değişeceğini görmek için kelime sayısı artırılabilir.

Bu çalışma B2 seviyesindeki, yani orta ileri derece İngilizce bilgisine sahip öğrencilerle yapılmıştır. Aynı sonuçların alınıp alınmayacağını görmek için, bu çalışma daha düşük İngilizce seviyesine sahip öğrencilerle de yapılabilir. Bu çalışma mobil kelime defteri tutmak üzerine ilk çalışma olduğu için, başka öğrenci gruplarıyla, farklı kurumlarda da yapılmalıdır.

Ayrıca, bu çalışmaya katılan öğrenciler mobil kelime defteri kullanımı hakkında çok olumlu yorumlar yapmışlardır ve mobil kelime defteri tutan grup daha başarılı olmuştur. Bu sonuç, öğrenciler dil öğreniminde mobil uygulamaları ilk kez tecrübe ettikleri için, onların yeni bir şeye olan istek ve motivasyonlarından kaynaklanıyor olabilir. Bu yüzden bu çalışma, mobil cihazların yabancı dil öğrenme sürecine aktif olarak eklendiği kurumlarda ve buna alışkın öğrencilerle tekrar yapılabilir.

Bu çalışma 8 hafta sürmüştür ve kelimelerin kalıcılığı üzerine herhangi bir test yapılmamıştır. Başka çalışmalarda, 8 haftanın dışında, belirli bir süre sonra kelime kalıcılığını ölçen bir test yapılabilir.

Bu çalışmada sadece öğrencilerin mobil kelime defteri hakkındaki düşünceleri alınmıştır. Bir sonraki çalışmalarda öğretmenlerin de mobil kelime defteri hakkındaki düşünceleri, mülakatlar yoluyla dinlenebilir.

Yine bu çalışmada mobil kelime defteri ve kelime defteri karşılaştırılmıştır. İleriki çalışmalarda, mobil kelime defteri ve web destekli kelime defterleri ileri ve düşük İngilizce seviyelerine sahip farklı katılımcılarla yapılarak, karşılaştırılabilir.

Bu çalışmanın öğrencilerin sosyo ekonomik statüleri ya da mobil cihaz kullanma yeterlilikleri gibi bazı sınırlılıkları vardır. Bu sınırlılıkları göz önüne aldığımızda, bu çalışma yeniden düzenlenip, uygulanabilir.

Kısaca, bu çalışmadaki tüm sonuçlar göz önüne alındığında, mobil öğrenmenin akıllı telefonlar gibi mobil cihazlar kullanılarak yabancı dil öğrenme sürecine eklenmesi, öğrencilerin kelime başarı seviyelerini olumlu şekilde etkilediği söylenebilir.

APPENDIX F

TEZ FOTOKOPİSİ İZİN FORMU

ENSTİTÜ

- Fen Bilimleri Enstitüsü
- Sosyal Bilimler Enstitüsü
- Uygulamalı Matematik Enstitüsü
- Enformatik Enstitüsü
- Deniz Bilimleri Enstitüsü

YAZARIN

Soyadı : Zengin Ünal
Adı : Özlem
Bölümü : Curriculum and Instruction

TEZİN ADI (İngilizce) : Investigating the Use of Mobile-based Vocabulary Notebooks on Students' Vocabulary Achievement in English Language Learning

TEZİN TÜRÜ : Yüksek Lisans Doktora

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir.
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir.
3. Tezimden bir bir (1) yıl süreyle fotokopi alınamaz.

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: