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THE EFFECT OF MOBILE TECHNOLOGY ON VOCABULARY DEVELOPMENT OF ENGLISH LANGUAGE LEARNERS: A CASE STUDY OF A2 ADULT LEARNERS

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MA THESIS

DEPARTMENT OF ENGLISH LANGUAGE TEACHING

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Tez yazma sürecinde bilimsel ve etik ilkelere uyduğumu, yararlandığım tüm kaynakları kaynak gösterme ilkelerine uygun olarak kaynakçada belirttiğimi ve bu bölümler dışındaki tüm ifadelerin şahsıma ait olduğunu beyan ederim.

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MOBİL TEKNOLOJİNİN İNGİLİZCE ÖĞRENENLERİN KELİME DAĞARCIĞI GELİŞİMİNE ETKİSİ: A2 SEVİYESİ YETİŞKİN ÖĞRENEN DURUM ÇALIŞMASI

Yüksek Lisans

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ÖZ

Bu çalışmanın amacı, mobil teknolojinin A2 seviyesi İngiliz dili öğrenenlerinin kelime dağarcığını geliştirmelerine olan etkisini ölçmek ve kelime dağarcıklarını genişletmek için kelime çalışma kâğıtları kullanan ve mobil destekli kelime öğretim uygulaması (MAVA) kullanan iki grubun tutumlarını ve fikirlerini ortaya koymaktır. Bu amaçla, deneysel bir çalışma tasarlanmıştır. Mobil destekli kelime öğretim uygulaması kullanan deney grubu ve kelime çalışma kâğıtları kullanan kontrol grubu oluşturulmuştur. Grupların başarılarını ölçmek üzere biri ön test diğeri son test olarak kullanılmak üzere birbirine paralel iki ayrı kelime testi hazırlanmıştır. Bunun yansıra, öğrencilerin tutumları ve fikirleri hakkında bilgi toplamak üzere iki farklı yarı yapılandırılmış görüşme formu oluşturulmuştur. Öğrenciler dört dil becerisi (okuma, yazma, dinleme, konuşma) ve üç alt dil becerisini (kelime bilgisi, dil bilgisi, telaffuz) kapsayan 12 haftalık bir genel İngilizce kursuna katılmaktadırlar. Yani dersler bütünleşik dil yaklaşımı ile işlenmektedir. İki grup arasındaki tek fark kelime dağarcıklarını geliştirmeleri için verilen ödevlerdir. Deney grubu mobil destekli kelime öğretim uygulamasını kullanmaktadır, diğer yandan kontrol grubu kelime çalışma kâğıtlarıyla ödevlendirilmektedir. Çalışmadan elde edilen sonuçlar göstermektedir ki, başarı açısından gruplar arasında anlamlı bir fark bulunmamaktadır. İki gruptaki öğrenciler de son testten oldukça yüksek sonuçlar almışlardır. Bu sebeple, hem kelime çalışma kâğıtlarının hem de mobil destekli kelime öğretimi uygulamasının öğrencilerin kelime edinim başarılarına olumlu etkisi olduğu söylenebilir. Ön test ve son testte yer alan alt bölümler ayrı

ayrı analiz edildiğinde deney grubu öğrencilerinin kelimeyi tanıma ve kelime telaffuzu alt bölümlerinden, kontrol grubu öğrencilerine kıyasla daha yüksek sonuçlar aldığı görülmektedir. Mobil destekli kelime uygulamasının öğrencilerin kelimeyi tanıma ve telaffuz etme yeteneklerini geliştirmekte kelime çalışma kâğıtlarına kıyasla daha olumlu bir etkiye sahip olduğu söylenebilir. Öğrencilerle yapılan görüşmelerden elde edilen nitel veriye göre, her iki gruptaki öğrencilerin de çalışma buyunca kullandıkları farklı kelime bilgisi arttırma aktiviteleri hakkında olumlu tutumlarının olduğu görülmektedir. Diğer yandan, kelime uygulamasının öğrencilere istedikleri zaman ve istedikleri yerde uygulamayı kullanmalarını sağlayan üstün bir özelliğinin olduğu öne sürülebilir. Kelime çalışma kâğıtlarına kıyasla mobil destekli kelime uygulamasının öğrencilerin kelime edinimleri ve bu kelimelerle ilgili alıştırma yapabilmeleri için daha elverişli olduğu iddia edilebilir.

Anahtar Kelimeler : Mobil destekli Kelime öğretimi uygulaması (MAVA), kelime dağarcığı geliştirme aktiviteleri, kelime dağarcığı geliştirme çalışma kâğıtları, bütünleşik yaklaşım, mobil teknoloji

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ABSTRACT

The aim of the study is to investigate the effects of mobile technology on vocabulary achievement of A2 level English language learners and to find out the attitudes of the learners who extend their vocabulary knowledge using two different ways which are mobile assisted vocabulary application (MAVA) and vocabulary extension worksheets. For this aim, an experimental study is designed. An experimental group who uses the MAVA and a control group who studies vocabulary through worksheets are made up. Two different vocabulary tests are prepared in order to be used as a pre-test and post-test. Moreover, two different semi-structured interviews are prepared so as to find out the attitudes and opinions of the learners in both experimental and control group related to the two ways of vocabulary extension activities. The learners have attended for twelve-week general English course based on activities related to four skills (reading, writing, listening, speaking) and three sub-skills (vocabulary, grammar, pronunciation). That is, the lessons are designed in an integrated approach. The only difference between the two groups is the assignment given in order to develop their vocabulary. The experimental group has been assigned to study vocabulary via the MAVA; on the other hand, the control group has taken the vocabulary extension worksheets as homework. The results reveal that there is no significant difference

between two groups in terms of achievement. Students from the both groups have relatively higher results from the post-test. Thus, it might be said that both vocabulary worksheets and the MAVA have positive effects on the students' achievement. When the subsections of the pre-test and post-test are analysed one by one, it is revealed that the students in the experimental group have relatively higher results from reading and pronunciation subsections of the post-test. It could be stated that the MAVA has more positive effects on the students' skills of recognizing words and pronouncing them correctly contrary to vocabulary worksheets. According to the qualitative data from interviews, students from both groups have a positive attitude related to their vocabulary extension activities which are used during the study. On the other hand, it might be stated that the MAVA has a superior feature which enables students to use it whenever and wherever they would like to. It is claimed that the MAVA is more convenient and ubiquitous for students to acquire new words and to practice them contrary to the vocabulary extension worksheets.

Key Words : Mobile-assisted vocabulary application, vocabulary extension activities, vocabulary extension worksheets, integrated approach, mobile technology

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Supervisor : Assist. Prof. Dr. Z. Müge TAVİL

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LIST OF ABBREVIATIONS

MAVA	Mobile Assisted Vocabulary Application
CALL	Computer Assisted Language Learning
MALL	Mobile Assisted Language Learning
GTM	Grammar Translation Method
DM	Direct Method

CHAPTER 1

INTRODUCTION

"Words represent the basic building blocks of language, and vocabulary knowledge limits both the speaker's production of spoken language and the comprehension of language produced by others. (Baddeley, 1998)" People use words to understand each other and convey their thoughts and feelings to the others. These building blocks are the first steps to learn and to use a native or a foreign language in order to communicate to each other, in this respect, vocabulary instruction gains importance in teaching and learning a foreign language. This chapter includes statement of the problem, aim of the study, significance of the study, assumptions of the study, and limitations of the study parts.

Statement of the Problem

In Turkey, English is the mandatory foreign language which is taught at every grade of Turkish Education System from the 2nd grade at primary schools to 12th grade at high schools. "Besides being widespread, especially in higher education, English appears to be seen as a requirement for better-paying jobs as well as for academic advancement, factors further reinforcing societal demand for it especially in urban areas." (Aktuna & Kızıltepe, 2005) Being an international language, English is the one which people desire to learn in Turkey.

One of the biggest challenges for English learners is learning new vocabulary items. Most of them want to learn this new language immediately. Generally, it is disappointing that the learning process is slow and time-consuming. Especially it takes really long time to learn the new vocabulary items because of the incremental nature of vocabulary learning (Schmitt and Tseng, 2008, Schmitt 2008).

In Turkey's situation, the beginner learners lack the exposure of the foreign language in daily situations because Turkish is the only official language used in country's borderlines. In this respect, the beginners have so limited sources to use English that they cannot internalize the new vocabulary items. Due to the lack of exposure to the authentic language in their everyday life, it is necessary for starter level students to learn new vocabulary items via different kinds of resources.

Nowadays learners are easily adapted to use some technological tools to learn new skills thanks to being digital native (Kritikou et al, 2010). Therefore, it seems to be one of the best options to use technological tools for English language learners to reduce the time for learning new vocabulary items and to acquire new words more permanently. "Many learners are motivated and excited to use mobile devices" (Ciampa, 2013). These kinds of devices offer more enjoyable and various ways to learn new vocabulary items for the low-level students than the long wordlists and a pile of flashcards. Course books only offer the context for the new words and long word lists. Moreover, classroom activities generally fall short for the expectation of the beginners to acquire the new vocabulary items. Some extensive activities, such as worksheets, are given to support this vocabulary learning process but these kinds of activities can be ignored by the students and are not be able to be completed in every situation such as on the travel to school, or during the breaks at school because of the inconvenience of carrying them. On the other hand, it can be possible to do these kinds of extensive activities on a mobile device wherever and whenever the learners want to do. Consequently, "multimedia technology goes beyond time and space, stimulates students' initiatives and economizes class time meanwhile increases class information." (Shyamlee & Phill, 2012)

For learning a new language, it is essential to learn its vocabulary (Celce-Murcia, 2001, p. 297); whereas, in terms of vocabulary learning in a typical language classroom, there are limited sources such as lists of the vocabulary items (Oxford, 1990), coursebooks, vocabulary books (if they are used in classroom). Not only the sources for words but also the time devoted to learning them are very limited in a language class (Alemi, Sarab & Leri, 2012). Therefore, the language learners should be supported with some other out-of-classroom activities.

In a typical language classroom, teachers present the new vocabulary items and hand out some worksheets related to these new words and then end the vocabulary teaching session with homework in order for the students to produce some original sentences as a writing

assignment. In this way, the students only face the new item at least three times if they do their assignments. Godwin-jones summarizes the situation with the description below:

> "In classroom settings, introductory textbooks provide a controlled set of new vocabulary items unit by unit, usually introduced first in dialogs and then gathered together in a list at the end of the chapter. While teachers urge students to learn new words in context, through dialogs or reading, many ignore the advice and focus on learning from lists, one column in the target language (L2), the other in the student's native language (L1)."

On the other hand, the studies on the effect of repetition on vocabulary knowledge reveal different numbers of repetition necessary for acquiring different aspects of word knowledge. Webb's study (2007) states that ten-time encounter with an unknown word in context may cause sizeable learning gains; however, to develop full knowledge of a word more than ten repetitions may be needed. Thus, the starter level learners should be supported with well-designed vocabulary extension activities in order to increase the repetition of facing with newly taught words.

All in all, learning vocabulary is a demanding task for every foreign language learner. The main reason for the difficulty in learning vocabulary is the lack of exposure in daily life of a language learner. Moreover, EFL learners have limited sources and limited time for vocabulary learning in language classes. This causes inadequate number of repetition for internalizing the new vocabulary items. Therefore, beginner learners require some beneficial and practical ways to learn new words.

Aim and Scope of the Study

In Burston's study (2015) on Mobile Assisted Language Learning (MALL) project implementation in the last twenty years and concluded that "MALL thus has a long way to go to realize its pedagogical potential and justify the current interest in mobile-assisted learning. Therefore, the present study tries to shed light on the issue, the pedagogical potential of the mobile technology.

The aim of the study is to find out which vocabulary extension activity is more efficient to acquire new vocabulary items as an out-of-classroom activity. In order to reach this aim, vocabulary worksheets and Mobile Assisted Vocabulary Application (MAVA) are compared and contrasted in terms of the students' vocabulary achievement and attitudes to the ways they practice the newly taught vocabulary items. The experimental group uses MAVA while the control group completes the vocabulary worksheets. These two ways to

practice vocabulary are used as homework after language classes. The study aims to define which vocabulary extension activities are more effective to acquire new words in terms of students' vocabulary achievement and to reveal learners' attitudes to the two vocabulary extension activities.

The study is conducted on A2 level adult language learners who study English eight hours a week in an integrated way in Turkish Language Learning Research and Application Center. The instruments will be administered to two classes of 21 and 18 learners.

Significance of the Study

In the last several decades, research on educational technology has been significantly increased (Kılıçkaya 2009, Wong & Looi 2010, Burston 2013, Afzali 2017) and language teaching field is one of the disciplines in which experimental studies based on technological devices have been done mostly (Kukulska-Hulme, 2006). Using technology in order to extend the vocabulary knowledge is not a new way in today's world (Gorjian 2012, Muhammed 2014, Sadeghi & Dousti 2014). This trend takes different names according to the technological devices such as Mobile Assisted Language Learning (MALL), Computer Assisted Language Learning (CALL). In the study of Hu (2011), it is stated that "the most straightforward applications of mobile devices for the educational purpose is text message". In the most MALL studies (Keneddy & Levy 2008, Alemi,Sarab & Lari 2012, Hayati, Jalilifar and Mashhadi 2013, Gürocak 2016), the vocabulary learning is enhanced via text messages, however; there are some deficiencies with this system such as lack of learners' interest and patience to read these messages and lack of options for learners to choose what to learn (Wu, 2015).

Thanks to the developing technology, the phones transform smart phones. They have internet connection and so they can do anything; more than computers do. Smart phones have various facilities such as, taking and sending not only SMSs but also videos, photos, audios easily by the help of web-based applications. People easily take photos, create videos, and voice records via their phones. For instance, Kurt and Bensen (2017) based their study on Vine vocabulary videos in order to teach vocabulary to their students and acquired successful results from this study. The videos in their study were created by the students and they watched and made comments each other's videos. The study reveals that the experimental group who engaged in vine videos had significantly higher scores from the post test. Another study (Wong, 2010) reveals "the potential of transforming language learning into an

authentic seamless learning experience" by using technological devices as in-class and out-of-class activities. Consequently, it is injustice to use only SMS facility for educational purposes.

On the contrary to the SMS studies, this study uses a web-based application to teach new vocabulary items to the learners. MAVA offers two main parts. The first part teaches the target words into topic-based groups such as countries and nationalities. In the teaching part students can find the target word with a representative image related to the target word, word definition and sample sentence containing the target word, and they can listen to word pronunciation. The second part provides eight different kinds of activities in order for students to practice the words in terms of spelling, pronunciation, and meaning. The students are also supported by the immediate feedback feature which leads them to the correct answer or shows them if their answer is correct or not. On the other hand, the MAVA used in this study was designed by a Turkish educational technology company and the content used in this application was shaped by the researcher herself considering the levels of the students and the course book the students use during the term. Thus, the implementation of the research was designed according to the sample learners' immediate needs and expectations to increase their motivation to learn and to attend this study.

Assumptions of the Study

In this study, it is expected that the learners who use the mobile assisted vocabulary application to learn vocabulary will get better scores than the learners who practice the new words through vocabulary worksheets thanks to the convenience of using MAVA. The reason why the first group gets better scores is that they can devote the time to do practices wherever and whenever they want and they can be exposed to the words more than once in different activity types such as matching the word with its picture activity, matching the pronunciation of the word with its written form, etc. On the other hand, worksheets only present the words once in written format. It is assumed that the learners will have more positive attitudes to the smart phone applications compared with the other group who study the new words on worksheets. Due to the fact that this generation is called digital native and capable of learning through these kinds of technological devices, they have more positive attitudes toward practicing vocabulary on MAVA.

Limitations of the Study

Several limitations in the present study warrant caution in generalization. First, there are obvious limitations in sample size. This study is carried out to a small number of participants. The participants of the study are obliged to use the MAVA as an out-of-classroom activity so no observations occur while they are using it. Moreover, the participants are also students at different departments or have to work except from the English Course. Therefore, learning English or more specifically expanding their vocabulary is not their first priority. Consequently, it is revealed that they have not shown a real effort to use MAVA when the data related to MAVA usage rate of the students is examined.

During the study, the participants use MAVA in their own devices and their own internet facilities. As a result, some technological problems has occurred and they have not been eliminated immediately, which prevents the participants from using MAVA and effects their motivation negatively. Some problems can be named as lack of wireless connection in their dormitories and campus, limited internet facility, some problems related to the devices they use such as malfunction of the microphone.

While the number of the students in control group and in experimental group is nearly equal at the beginning of the study, the numbers have changed at the end of the study and become 10 and 18 respectively. However, this limitation can be eliminated by some qualitative and quantitative data being collected. To sum up, interviews are conducted with the participants from both groups in order to reach detailed information about the use of the both vocabulary extension activities and MAVA apart from pre-test and post-test.

CHAPTER 2

REVIEW of LITERATURE

In this chapter, vocabulary instruction has been examined throughout the history in the light of language teaching approaches and methods. After that, lexical approach has been summed up. After explaining vocabulary knowledge, receptive, and productive vocabulary knowledge, the chapter covers vocabulary instruction under two headings which are implicit vocabulary teaching, and explicit vocabulary teaching. Next, role of memory in vocabulary acquisition is discussed. Technology use in vocabulary instruction, Computer Assisted Language Learning (CALL), afterwards it comes an end by shedding some lights on mobile learning and research on Mobile Assisted Language Learning (MALL).

Vocabulary Instruction in Language Learning Approaches and Methods

The value of vocabulary has been changing according to the philosophy of learning and methods of language learning/teaching throughout the history. Ketabi and Shahraki (2011) attribute the low status of the vocabulary in teaching language to the language teaching approaches which were dominant at that time. Until 1920s, the grammar translation method was the main approach to teach a foreign language. Translation was so important that there was a pile of bilingual wordlists to memorize; moreover, rote memorization was an undeniable part of language learning (Richards and Rodgers, 2001). GTM was criticized that the words were taught out of their contexts. After this traditional method in language, learning and teaching, most of the approaches to language instruction have been effected and shaped by learning theories in psychology. The main theories can be named as behaviourism, cognitivism, and constructivism in chronological order.

With the help of the behavioural sciences, linguists tried to find new natural ways to teach language and they took children's mother tongue learning as a model. They supported that

the language should be taught from the sounds of the words to the spelling of the words. Contrary to GTM, the words should be taught in content and in the target language by demonstrating not translating. With the attention to naturalistic principles of language learning, the Direct Method became popular in Europe and in the US. Due to the limitations of DM, it was considered inadequate for practical realities of the classroom. However, DM became the focus of teachers of English and the language specialists as a language teaching method and presented a methodology which moved language teaching into a new era called "methods era." (Richards & Rodgers, 2001, p. 14)

In 1940s and following two decades, Audio-lingual method (ALM) took place with the view that language learning was a kind of habit formation. ALM adopted the principles of behaviourism, which defines learning as a relationship between stimuli and response, as a learning theory. Therefore, "the assumption was that once students learned the structural frames, lexical items to fill grammatical slots in the frames could be learned later, as needed" (Celce Murcia, 2001, p. 285). The type of content changed with the drill-kind of practices, so the simple sentences based on structure took place of the literary and complex texts. "..., just enough simple and familiar words were introduced, so that students would not be distracted from concentration on the target structures" (Espinosa, 2003, p.101). Students practiced some structures until they produced them grammatically correct. Grammar gained importance again the drills were used mainly to utter grammatically correct sentences. The focus in language teaching was still on grammar not on vocabulary.

In 1960, Chomsky put forward generative linguistics, based on cognitive learning theory, and the word categories gained importance. Only considering word categories (nouns, adjectives, etc.) it was possible to produce infinite number of sentences. The language learning was seen as rule acquisition not habit formation and rule acquisition was seen as an internal process in mind. Not only vocabulary was of secondary importance after grammar, word meaning was also ignored.

Against this ignorance, communicative competence was highly considered and using words in meaningful communication gained attention. Purpose of the speaker and the situation where the communication occurred gained importance. Pragmatic uses of the language mattered; as a result, notional and functional categories were stated by Wilkins (Richards & Rodgers, p. 154). By the help of the constructivist view, Communicative language teaching emerged as a method with learner-centred and experience-based view of second language teaching. Although the focus of the language learning was on the appropriate use of language

in communication in this method, “once again … vocabulary was given secondary status, taught mainly as support for functional language use” (Celce-Murcia, 2001 p.286).

As seen above, vocabulary teaching and learning has been neglected throughout the history of language learning and teaching. Ketabi and Shahraki (2011) claim that in the past, it was thought that vocabulary could simply be learned effortlessly, and received only incidental attention in many textbooks and language programs. Vocabulary learning had been generally considered as a natural process of language learning and so ignored. The reason why vocabulary instruction was not the focus of language teaching is that vocabulary was seen as an infinite system and had no common features between words or phrases.

Consequently, there is not a systematic way or method for teaching vocabulary, there are only some teaching techniques and some learning strategies to acquire vocabulary in language learning. Nowadays the most acceptable way to teach and learn a word is teaching or learning the word in context (Nation, 1974) and with its many different features such as its form, meaning, appropriateness or register. By the help of technology, it gets easier to see a word in different contexts using concordance or it becomes common to learn and practice the word by using varied digital tools. Today the features of web based technologies (e.g: mobile phones, PS, PDAs, etc.) make some vocabulary-based studies possible and let researchers construct systematic methods based on vocabulary.

After examining the status of the vocabulary instruction in terms of language learning theories throughout the history, it is time to have a look at the lexical approach, which claims itself as a vocabulary-based approach.

Lexical Approach

Lexical Approach was put forward by Michael Lewis in 1993 with his book called “The Lexical Approach the state of ELT and a way forward”. His most well-known proposal “Language consists of grammaticalized leximes not lexicalized grammar” (Lewis, 1993, p.51) compromises the core concept of his book. The focus on grammar in language learning is rejected and it emphasizes that the primary focus in teaching a language be on the lexis which is defined as “In linguistics, the words of a language can be referred to as the lexis of that language. = vocabulary” (Collins Cobuild Advanced Learner’s English Dictionary, p. 826). Richard and Rodgers (2001) defines lexical approach as one which claims that “the building blocks of language learning and communication are not grammar, functions,

notions, or some other unit of planning and teaching but lexis, that is, words and word combinations."

Lexical approach stems from the technological advances, which help linguists, cope with large amount of lexis via concordances. After using computer programmes, called concordance, language experts are able to discover the relationship between words and tend to evaluate them in more broad groups, such as chunks, collocations. Now by the help of technology, vocabulary can be also divided manageable parts to teach in classes and by the aid of the relationship between words, the lexical items might be easily learnt.

Lexical approach supports that the language should be learnt the same as learning mother tongue by listening. According to this approach, speaking and writing are the last phases of language learning and therefore it is not a beneficial effort to increase students talking time. It is also meaningful and beneficial if the students actively listen to their teachers who are the basic resource for how to speak in the target language. This situation should also be appreciated and supported. Moreover, tasks are very crucial for meaningful learning although it is impossible and not a must to bring the real world into the classroom.

Lexical approach, moreover, differs from the other grammar based methods with the Observation- Hypothesize- Evaluation paradigm. It emphasizes that O-H-E supports fluency which precedes accuracy. It is believed that grammar is a skill needing time because it takes time to grasp structural side of the language. Fluency is a term bound to vocabulary however; accuracy is dependent on grammar knowledge. Fluency feeds accuracy but not vice versa.

The theoretical frame of lexical approach is not different from the communicative ones. It is stated that "the lexical approach embraces all that the communicative approach suggested" (Lewis, 1993, pg. 32). The only difference from the other methods or approaches is that this approach emphasizes that lexis become the organizing principle which defines content and methodology.

Lewis (1993) listed the principles of Lexical approach as below:

1. Early emphasis on receptive skills, especially listening, is essential.
2. De-contextualized vocabulary learning is a fully legitimate strategy.
3. The role of grammar as a receptive skill must be recognised.
4. The importance of contrast in language awareness must be recognised.
5. Teacher should employ extensive, deictic language for receptive purposes.
6. Extensive writing should be delayed as long as possible.
7. Non-linear recording formats are intrinsic to the Lexical Approach.
8. Reformulation should be a natural response to student error.
9. Teachers should always react primarily to the content of student language.
10. Pedagogical chunking should be a frequent classroom activity. (Lewis, 1993, pg. 35)

The lexical approach is not defined as a revolutionary approach or method, it only tries to change the grammar-based point of view in language teaching into lexis-based one. For this aim, the lexical approach employs all the technological advances in order to make lexis become more manageable units which can be dealt with in a standard language classroom.

After defining vocabulary in Lexical Approach, it is essential to explain what the vocabulary knowledge is and what it means to know a word.

Vocabulary Knowledge

Words are the most crucial elements to convey meaning in communication both oral and written one. Before defining vocabulary or vocabulary knowledge, it is necessary to define "word". It is defined as "A word is a single unit of language that can be represented in writing or speech" in Collins Cobuild Advanced Learner's English Dictionary. However, in vocabulary instruction, it gains importance to learn not only single words but also word groups and collocations. Word groups are defined as many different terms. "Lexeme (also lexical unit or lexical item) is defined as an item that functions as a single meaning unit, regardless of words it contains" Schmitt (2000, p.2). In many cases only knowing the word meaning is not enough to understand a phrase or a group of words. Moreover, it is essential to know what the word means with the words around it in a context. Therefore, chunks, phrases, and collocations gain importance by the way the general information related to the text or speech.

Richards (1976) claims that linguistic, psycholinguistic, and sociolinguistic aspects of word knowledge includes word frequency, vocabulary growth in native speakers, collocation, register, case relations, underlying forms, word association, and semantic structure. He uses some research results to propose some assumptions in order to define teaching objectives in language classes. Richards (1976) proposed some assumptions related to word knowledge as below:

1) The native speaker of a language continues to expand his vocabulary in adulthood, whereas there is comparatively little development of syntax in adult life.
2) Knowing a word means knowing the degree of probability of encountering that word in speech or in print. For many words, we also "know" the sort of words most likely to be found associated with the word.
3) Knowing a word implies knowing the limitations imposed on the use of the word according to variations of function and situation.
4) Knowing a word means knowing the syntactic behaviour associated with that word.
5) Knowing a word entails knowledge of the underlying form of a word and the derivations that can be made from it.

6) Knowing a word entails knowledge of the network of associations between that word and other words in language
7) Knowing a word means knowing the semantic value of a word.
8) Knowing a word means knowing many of the different meanings associated with the word.

Nation (2001, 25) states what is involved knowing a word and shows the aspects of knowing a word in a table below.

Table 1

Knowing a word

Form	Spoken	R	What does the word sound like?
		P	How is the word pronounced?
	Written	R	What does the word look like?
		P	How is the word written and spelled?
	Word parts	R	What parts are recognizable in this word?
		P	What word parts are needed to express the meaning?
Meaning	Form and meaning	R	What meaning does this word form signal?
		P	What word form can be used to express this meaning?
	Concept and referents	R	What is included in the concept?
		P	What items can the concept refer to?
	Associations	R	What other words does this make us think of?
		P	What other words could we use instead of this one?
Use	Grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	Collocation	R	What words or type of words occur with this one?
		P	What words or type of words must we use with this one?
	Constraints on use	R	Where, when, and how often would we expect to meet this word?
		P	Where, when, and how often can we use this word?

In column 3, R (Receptive knowledge) P (Productive knowledge) "Learning Vocabulary in Another Language" Nation, 2001, UK

As Nation classification, word knowledge has two major aspects which are productive and receptive. He examines vocabulary knowledge under three headings; Form, Meaning, and Use. Form covers spoken and written forms of a word and adds word part knowledge of a word. Meaning includes form and meaning relationships, concept and referent relationship and moreover, word associations. Use category examines grammatical functions of the word, collocations, and constraints on the use of a word.

Vocabulary knowledge is a sensitive matter which cannot be considered to be learnt without any effort in the language classes due to the fact that lexical competence has many different aspects and complicated processes such as strategy teaching. Vocabulary knowledge

development requires time, intentional focus and high exposure thus this process should be planned carefully and the learners must be acknowledged about strategy training and various aspects of vocabulary knowledge.

After explaining vocabulary knowledge, it is necessary to give details of the two aspects of the vocabulary knowledge: Receptive and Productive.

Receptive (Recognition) Vocabulary Knowledge

Receptive vocabulary knowledge is the word knowledge we use when we listen to the oral language or read a text. This knowledge is much broader than the productive vocabulary knowledge. Student's receptive vocabulary are often far advanced of their expressive ones, especially in the early grades (Blachowicz & Fisher, 2015, p. 3).

It is suggested that receptive vocabulary is divided into two categories, oral (by listening) and written (by reading) receptive vocabulary. In two situations students read or listen, they use some contextual clues to guess the word meaning and get a general sense of word meaning. It is quite enough to recognize the word in the text.

Oral receptive vocabulary can be acquired as the most natural way (only listening) in the first language acquisition, on the contrary, it is not so easy and natural to acquire in the second or foreign one. Learners mostly have difficulty in understanding what they listen to in a foreign language. The main reason is that the sounds and words consisting of these sounds are unfamiliar for the second language learners. On the other hand, "spoken teacher explanation is a common way of teaching vocabulary" in language classes (Nation, 2008, p. 19). The relationship between vocabulary knowledge and listening skill is bidirectional. Without enough vocabulary knowledge, learners do not understand the listening tracks easily, while without any listening input they cannot contribute their vocabulary growth. Mathews (2018) stated that mid and high frequency vocabulary knowledge can be seen predictive of L2 listening for high proficiency group. Oral vocabulary knowledge can be seen as a prerequisite for high proficiency in listening skill.

In order to extend the receptive vocabulary knowledge, extensive and intensive reading are mostly applied. The aims of intensive reading activity are to understand the text and to learn language features through deliberate focus on these items whereas extensive reading causes largely incidental learning, that is, the focus is on the story not on items to learn. (Nation 2008, p. 59,70) In such reading activities, some graded reading books are extensively used.

These kinds of books are beneficial for learners to improve their own level of word knowledge and reading skills. Extensive reading seems to be a successful strategy to acquire new words and to expand vocabulary knowledge; whereas, some other factors are also important to increase this success such as, how many times the student face with the new words, if there are enough contextual clues to acquire the meaning of the new words, which strategies can be used during extensive reading. Wasik, Hindman and Snell (2016) investigate a large number of studies on book reading and vocabulary development and defines six mostly used strategies about vocabulary teaching through reading, which are "reading and re-reading texts, explicitly defining words, encouraging dialogue about book-related vocabulary through questions and discussions, re-telling, using props, and engaging children post-reading activities." All in all, the activities should be carefully planned and the strategies are well defined if the teacher uses listening and reading to teach vocabulary.

Productive (Expressive) Vocabulary Knowledge

Productive vocabulary knowledge is the word knowledge we use when we write a piece of text and speak the language. This knowledge requires more precise information related to the word meaning, usage and some syntactic features. When we produce some piece of text or speech, we need this knowledge. It is not sufficient to recognize the word or only to know its meaning. We have to know where to use it and which words we should use around this word (collocation). Productive vocabulary knowledge is also divided into two, such as oral (by speaking) and written (by writing) productive knowledge.

In speaking, the learners do not need to know a wide variety of words, the basic principle should be that learners are "able to say a lot using a small number of words" (Nation, 2008). In this perspective, the learners who already have a larger receptive vocabulary should be encouraged to activate their productive vocabulary knowledge with some basic speaking activities, which are "discussions, speeches, role plays, conversations, videotaped oral dialogue journals" (Celce-Murcia, 2008, p. 106-109). Nation (2008, p. 44) also states that paraphrasing strategy is an important vocabulary strategy in speaking in order to compensate the words learners cannot remember at the time of speaking. In this strategy, learners try to explain the exact word they cannot retrieve at the time of speaking using their own words so that they can maintain the conversation.

The same strategy, ability to say a lot with limited vocabulary in speaking, can be applied in writing skill. The graded reading books show that it is possible to produce successfully

written text with limited number of words. On the other hand, there are numerous studies that show the strong relationship between vocabulary knowledge and writing skills (Maskor and Baharudin 2016, Stæhr 2008, Lee and Muncie 2006). The higher proficiency in vocabulary knowledge results to successful performance in writing, and productive writing activities also have positive effect on vocabulary acquisition. Webb's study (2005) also proved that "productive learning (using the target word into students' own sentences) is superior to receptive learning (reading sample sentences including target word) not only in developing productive knowledge but also in producing larger gains in receptive knowledge."

Consequently, in language classes based on integrated skills, teachers have a tendency to do the tasks related to receptive skills, reading and writing, and they cannot spare enough time for productive ones. On the other hand, these productive activities based on speaking and writing creates more strong gains in vocabulary acquisition.

After defining word knowledge under two broad headings receptive and productive word knowledge, it is time to consider how vocabulary instruction takes place in language learning settings. Vocabulary instruction contains two main approaches to present vocabulary knowledge to the language learners. Both approaches are idiosyncratic in terms of their superiority and inferiority.

Vocabulary Instruction

There are two main approaches to teach vocabulary, these are explicit and implicit vocabulary teaching which are highly used in language classrooms.

Explicit Vocabulary Instruction

"There are two main approaches in respect of the explicit learning paradigm: explicit instruction and strategy instruction." (Ma & Kelly 2006) Explicit vocabulary teaching is a way to present the new vocabulary items first, then make the students practice the new items with some exercises (such as, fill in the blank, order the letters of the word, etc.) and finally to let the learners produce some texts or use the new words in speech. Context is also very crucial to present the target vocabulary. Strategy instruction, the other part of explicit learning paradigm, includes teaching some vocabulary learning strategies such as, word

grouping, word association, mnemonics, etc. to the learners to acquire new vocabulary items efficiently.

This way is a shortcut for the limited number of words taught in a lesson. It seems efficient and more direct to teach new words. There are many techniques to present new words explicitly. “Traditionally, translation has been the most widely used means of presenting the meaning of a word in monolingual classes.” Thornbury (2005, p. 77) It is quite time-saving and effortless way especially for the learners, but it is less memorable. The second way is to show ‘real things’ and name it in English. This way is for so limited number of vocabulary. It is not possible to bring every real object into the classroom. Instead of using real objects, some realias or pictures of the objects, which is supposed to teach, can be used in language classes. By the help of developing technology, it gets easier to bring the photos of the real objects into the classes so easily and effortlessly. Using visual aids is suitable for the beginner learners or multilingual classes where using translation is impossible or unwanted. It is used mostly for concrete words. For other abstract words, we need to explain meaning with other words as in the dictionaries. In order to explain a word meaning by using other words, an example situation can be described, several example sentences can be given, synonyms, antonyms or superordinate terms can be given or a full definition can be presented.

Afterwards, the word meaning is not sufficient in order to acquire new words and to use them successfully. Some other features of the word should be taught. The second feature is the form of the word. In order to highlight the form some techniques can be used such as listening drills, oral drills or board work (Thornbury 2005, p. 85). Drills are used mostly in audio-lingual method. It requires someone to repeat the newly taught words in a chunk or a sentence. It might be enjoyable for young learners but boring for the adult learners.

There are more cognitive strategies to activate the learners in the vocabulary learning process. One of the best ways to make students active while presenting new words into the classroom is elicitation. In this technique, the teacher should arouse interest and give some clues to the students to find the meaning and the form of the new words. So the students can actively engage into the learning process. Personalization is another technique for the students to use the new words accurately. In this technique, the students are supposed to use the new words in a way that they express their own experiences, emotions, and thoughts. Association network, peer teaching and information gap activities are some other ways to

lead the students to use the new words actively and to check their understanding related to the meaning and the form of the newly taught words.

Implicit Vocabulary Learning/Teaching

Implicit vocabulary teaching is another way to teach new vocabulary. In this method, learners read or listen to some topical texts and so they are exposed to the new vocabulary items more than once. In the studies related to incidental vocabulary learning through reading and listening reveals that incidental vocabulary acquisition through reading is more effective than through listening; moreover, fewer word exposure in a reading text is enough to acquire new words while more word repetition is required for the same acquisition in listening. (Zeeland & Schmitt, 2013) In incidental vocabulary learning, there are no direct instruction or translation of the newly taught words. The learners are expected to imply the meaning of the new words from context although the meaning of a word is the last acquired feature after spelling and word class of the word.

Generally, it is preferred to activate the students' background knowledge related to the new vocabulary items before reading or listening and some tasks are designed for students to explore and to find out the meaning of the new words. Extensive reading is undeniable for implicit vocabulary learning. The more the students read, the more they are exposed to the target vocabulary items. This technique can be supported by the help of technology. Hypertexts provide some links between the word and some images, videos, and definitions related to words. Therefore, students can easily access the meaning of the word without any breaks through reading the text. Moreover, these applications provide visual, audial support for students to learn the newly taught words in more comprehensive and multi-faceted ways.

Perez and Desmet (2012) states that "Vocabulary is precisely one of the language components that can be acquired through training in listening skills. …vocabulary gains are merely considered a 'by-product' of the main listening task". They investigate which input enhancement technique help acquire the words best and emphasize that captioned videos raise vocabulary learning opportunity compared to the videos without captions. In another similar study (Valentini et. al. 2018) it is strongly claimed that "listening while reading promotes word learning from stories" and it is stated word meaning is acquired better in the combined condition than only reading or only listening condition. Consequently, both reading and listening activities support incidental vocabulary acquisition however, using bimodal input seems more effective in implicit vocabulary teaching.

Ma and Kelly (2006) state that the problem in acquiring vocabulary incidentally stems from three sources which are a great deal of contextual guessing of the unknown words, the very low learning rate, the acquired vocabulary for only recognition not for production. In the same study, it is stated that these two approaches should be seen complementary learning approaches that are necessary to vocabulary acquisition.

Role of Memory in Vocabulary Acquisition

Human beings acquired the information by using their five senses, that is, by seeing, hearing, feeling, smelling and tasting. When some things or stuff is experienced, it gives us some particular perception related to themselves. While this perception is recorded, three types of memory work, and these are sensory memory, short-term memory (STM) and long-term memory (LTM).

Basically, sensory memory lasts only while the person is experiencing something and ends without experience. STM keeps the information gained by the experience for only a short time. In order to transfer the memory from short term to long term, there should be many practices, that is, experiences. As understood from their names, short term memory keeps the information for a short time in the short term store (STS); on the other hand, there is another memory type which executes some complex processes in order to transfer the information from STS to LTM, this is called working memory (WM).

Having focused on the information processing tasks, Baddeley and Hitch (1974) claims that the most specific function of the WM is the transfer of information to long term store and also its basic feature is short-term maintenance of information in the absence of sensory input. Baddeley et al. (2011) define working memory as "the system or systems that are assumed to be necessary in order to keep things in mind while performing complex tasks such as reasoning, comprehension and learning." and he adds that STM is the temporary storage of small amounts of material over brief periods of time. Archibald (2017) states that "working memory can be seen as a flexibly allocated resource that supports our cognitive capacity to engage in a number of complex tasks including language learning."

In addition that, Baddeley also offers an attentional control system which is called the central executive. The central executive has two short-term storage systems which are the visuo-spatial sketchpad for visual material and the phonological loop for verbal-acoustic material. Phonological loop is frequently associated with the language learning, both native language

and foreign language (Baddeley, 2011; Masoura & Gathercole, 1999). Memory is responsible to almost all learning experiences. Moreover, language acquisition is claimed to depend on mostly phonological short term memory, shortly phonological memory or loop.

> Baddeley et al (1998) state that " the loop is specialized for the retention of verbal information over short periods of time; it comprises both a phonological store, which holds information in phonological form, and a rehearsal process, which serves to maintain decaying representation in the phonological store."

They also suggested that the function of the phonological loop is not to remember familiar words but to help learn new words. Archibald (2017) states that once sufficient vocabulary knowledge is stored in long-termed memory, new word learning is mediated (to great extent) through accessing lexical phonological representations of close neighbours rather than relying on brief encoding of phonological forms in working memory. Once a person tries to learn a new language, the more words they learn the more they are able to add new words in their vocabulary knowledge. Phonological loop is shaped according to the new language phonemes and with the help of phonological long term memory language learners become faster to acquire new words.

> The relationship between short-term memory and long-term knowledge therefore appears to be reciprocal: Phonological loop capacity promotes learning of phonological patterns of new words, and stored knowledge of the phonological structure of the language supplements the phonological loop. (Masoura, 1999)

Baddeley (2000) states that phonological loop plays an important role in long-term phonological learning, in addition to short-term storage. As such, it is associated with the development of vocabulary in children, and with the speed of acquision of foreign language vocabulary in adults.

Baddeley (2003) claims that the phonological loop can be a useful aid to learn new words. "It allows the storage of verbal information for short periods of time." (Verhagen, 2016) Phonological loop can be distracted by an irrelevant sound repetition or phonological similarity of the items which the subject have to memorize. (Baddeley 2003). Therefore, in order to memorize new items there is not distractive sounds and the words are not listed according to their phonemic similarities (such a list 'book, hook, brook, cook') on the contrary they should be categorized according to their phonemic differences or semantic similarities (such a list 'walk, march, tiptoe, creep'). Knowing the results obtained from the research on memory, it is very crucial to determine the content accordingly and to design the language courses in order to strengthen the memory traces and so the vocabulary items can be stored in long term memory.

Words are the keys we use to open our mind to the world outside and to understand the other people's minds. Without words, we cannot make connections to the world around us. Therefore, it is so complicated to gain words and reuse them in order to achieve our goals. First of all, memory studies show that there are three types of memory, these are short-term store, working memory and long-term memory. Every day, every second we make new connections between one part of our brain and another part. Many complicated events occur in milliseconds and creates learning. Even though the only aim seems to move information from short-term memory to the long term one, this process is not so easy that it seems. In order to memorize and store the new words in the long-term memory, many challenging and time consuming events have to be executed. There are some techniques for word memorization, such as, repetition, retrieval, spacing, pacing, use, cognitive depth, personal organizing, imaging, mnemonics, motivation, attention, affective depth, etc. (Thornbury 2005 p:24-25)

As seen in the previous paragraph, there are various ways to memorize the new vocabulary items however, it is more crucial to maintain this memorization successfully. The key motto for this *use it or lose it*. Therefore, as teachers, we should teach the strategies related to how the students acquire new words and keep them in mind. When we look at the classroom sources for vocabulary instruction, there are so limited materials we have such as course books, vocabulary books, the teacher and other students. If the time limitation is also considered, there is not enough opportunity for vocabulary instructions. "…because of the time and energy involved in teaching and learning vocabulary: other features of the vocabulary (multidimensionality of vocabulary knowledge) would be overshadowed for the sake of meaning" (Gorjian 2011). Consequently, it gains importance to provide some out-of-classroom materials and to teach students how to use them properly.

Considering the role of memory in vocabulary teaching, other two important aspects should be mentioned. These are vocabulary learning strategies, which language learners use extensively to learn vocabulary, and language teaching techniques which teachers of English often apply in language classes.

Vocabulary Learning Strategies

Research in ELT claims that using vocabulary learning strategies (VLS) is really beneficial to acquire new words and so giving vocabulary learning strategy training is also equally important for learners to develop their vocabulary knowledge. In literature, VLS is defined

by gathering data from interviews, classroom observation, and questionnaires conducted on the language learners and trying to understand good language learners' behaviours.

Oxford (2003) categorizes L2 learning strategies under six which are cognitive, metacognitive, memory-related, compensatory, affective, and social strategies. This categorization is quite comprehensive. While cognitive strategies cover some mental processes such as reasoning, summarizing or synthesizing, metacognitive strategies are related to thinking about one's own thinking and include identifying one's own learning, planning for learning task, etc. She also defines memory-related strategies (acronyms, keyword, rhyming, etc.), compensatory strategies, affective strategies, related to the management of one's own emotions, and social strategies.

VLS are studied and implemented in language classes. Alharthi (2014) reveals that rote-memorization causes attrition in receptive word knowledge while note-taking (take notes about the word by writing its definition and synonym) leads learners' retention in receptive and productive word knowledge.

Shen (2003) also puts forward 5R model explaining learners' vocabulary learning process. 5R model refers to receiving, recognizing, retaining, retrieving and recycling in four language skills. These are also processes between reception and production of the new words in order. Moreover, he claims that this 5R vocabulary learning model be supported by the 2C (contextual and consolidating techniques) vocabulary teaching techniques.

In Rossiter's study (2016), the VLS is defined as a list below:

1) Guessing the meaning of the word from the context
2) Working in pairs/groups to complete vocabulary activities
3) Choosing words they are interested in learning
4) Guessing the meaning of the word from its parts
5) Studying using a vocabulary notebook
6) Studying using mnemonic strategies
7) Studying using word cards
8) Looking up the word in a dictionary
9) Studying using word lists
10) Using a vocabulary learning program such as Wordchamp

VLS has been studied in terms of its contributions for students to improve their four language skills. Kafipour (2011) investigated whether learners use the VLS and how the strategies effect the students' reading comprehension. He concluded that the learners are medium users of the VLS and only the social strategies has a direct effect on learners' reading comprehension.

Vocabulary Teaching Techniques

Oxford (1990) emphasizes the importance of vocabulary teaching and categorizes the vocabulary teaching techniques into four which are decontextualizing, semi contextualizing, fully contextualizing, and adaptable techniques. In this aspect, she categorizes the techniques according to which context the presentation of the words occurs.

Decontextualizing techniques include word lists, flashcards, and conventional dictionary use. They are the most frequently observed in the language classes by the help of the course books. Semi contextualizing techniques involve word grouping, word or concept association, visual imagery, aural imagery, keyword, physical response, physical sensation, semantic mapping. These techniques are generally used in vocabulary strategy training programmes. They seem to be time-consuming in classroom setting. Therefore, teachers prefer to lead the language learners to use these techniques but cannot spend classroom time for applying them.

The key word technique is conducted in most vocabulary acquisition research. The key word technique involves associating the novel L2 word with an L1 key word that is acoustically or orthographically similar, and then connecting the L1 keyword with the L1 translation of the L2 word (Sagarra, 2006). Ellis and Beaton (1993) reveals that keyword technique has positive effect on receptive vocabulary whereas repetition technique is good for productive vocabulary.

Fully contextualizing techniques cover reading and listening practice, and speaking and writing practice. Commercially available course books use these techniques most and they provide new vocabulary items as a warm-up activity before four language skills practices. Thus, implicit learning of the vocabulary is supported with these warm-up activities explicitly.

> Adaptable techniques offer structured reviewing which requires the learners revise the vocabulary items in regular time intervals. That is, learners practice the vocabulary items first and then 15 minutes later, an hour later, the next day, two days later, the following week and so on until learning them all. This regular study is suggested as the result of memory research for not only vocabulary teaching or language learning, but also for all kinds of learning (Oxford, 2003). She also defines some necessary conditions for a strategy being useful as following: (a) the strategy relates well to the L2 task at hand, (b) the strategy fits the particular student's learning style preferences to one degree or another, and (c) the student employs the strategy effectively and links it with other relevant strategies.

Shen (2003) puts forward 2C model for vocabulary instruction, these are contextual and consolidating dimensions of techniques. He claims that contextual techniques are utilized for lexical input and output whereas the consolidating ones are used to restore words. In this

theory, the contextual techniques provide the new vocabulary in context, the consolidating techniques yields for conscious effort and includes some intentional learning activities such as using word-lists, dictionaries, flashcards, games, mnemonics, word-analysis, etc.

Some other techniques to teach vocabulary in the ESL classes are listed in Rossiter's study (2016) as below:

1) Saying the word aloud
2) Using the word in an example sentence
3) Giving a simple definition
4) Writing the word
5) Giving examples of a synonym or related word
6) Asking a student for the definition
7) Identifying the stress pattern of the word
8) Act out the word using gestures
9) Using supplemental materials
10) Discussing the underlying meaning of the word
11) Identifying prefixes or suffixes
12) Referring to the information provided in the course textbook
13) Drawing/displaying a picture of the word, look up the word in a dictionary
14) Displaying important vocabulary and phrases around the classroom

Vocabulary learning strategies are essential to be a good language learner on the other hand vocabulary teaching techniques are necessity for an effective vocabulary instruction in language classes. All in all, learning is a knowledge building process which is unique from person to person so there should be various ways to convey the information and acquire it.

Rapidly changing technology creates new ways for language learners and causes some changes in their vocabulary learning strategies. It also effects the vocabulary teaching techniques teachers adopt in the language classes.

Mobile Learning

Today one of the undeniable effects of developing technology is that mobile devices enables people to use technology extensively. Mobile devices mean various equipment which is carried easily. Major ones of these mobile devices are laptop computers, tablet computers, personal digital assistants and smart phones, which are indispensable part of our life. Each device has their own facilities and constraints while being used. The only common facility of these devices is that they enable people to use the internet actively. These are actually tools which people use to access the internet. At this point, it is essential to have a look at the data related to internet use of the world.

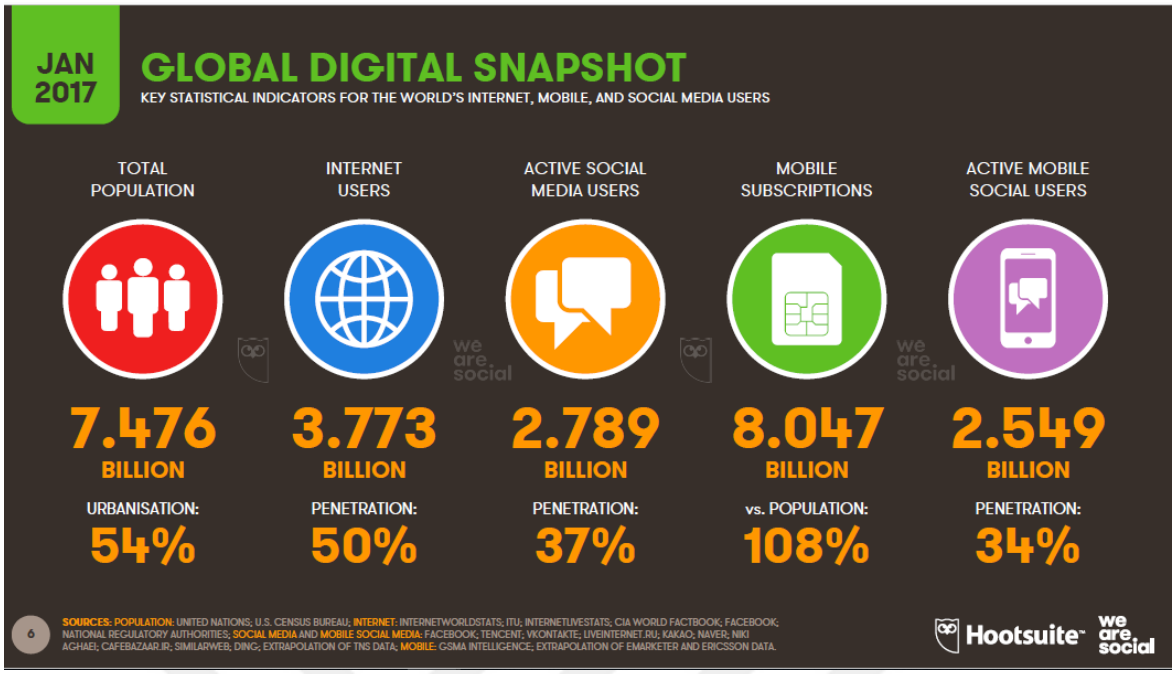

Figure 1. Key statistical indicators for the world's internet, mobile, and social media users. "Digital in 2017 Global Report" Kemp, S., 2017.

Considering the data related to the use of internet around the world in 2017, about half of 7.4 billion people (3.7 billion) use the internet. The number of mobile subscriptions exceeds the number of the people on the world as being 8 billion. This report draws attention on how many people using social media out of the internet users.

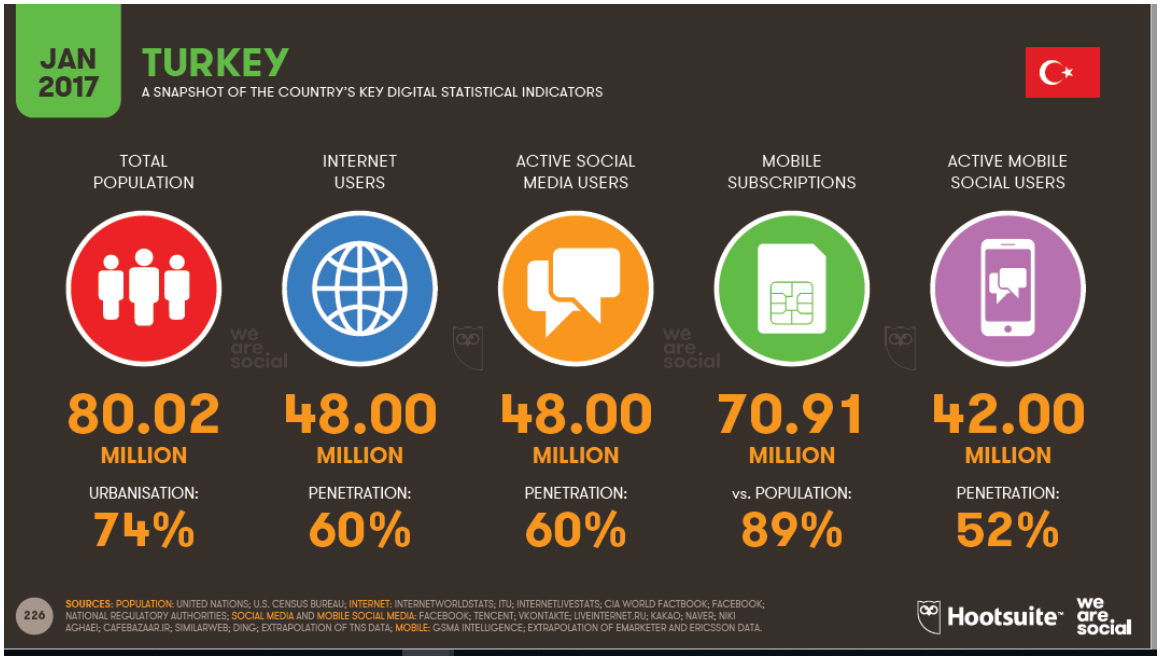

Figure 2. Snapshot of the Turkey's key digital statistical indicators "Digital in 2017 Global Report" Kemp, S., 2017.

Considering the data related to Turkey of the same report, it is stated that in 2017, 60% of 80 million people are active users of the internet. It is observed that 89% of the population has mobile subscriptions, that is, there are 70.9 million subscriptions.

That the internet facility penetrates our life so densely obliges to report thoroughly how the internet facility is used. Turkey Statistical Institute reports should be considered in order to evaluate the behaviours of the internet users in Turkey. According to the research on household internet use, 7 out of 10 houses have an internet access; whereas 96,8% of these aforementioned houses have mobile phones.

The rates indicate that positive attitude towards communication technologies is considerably high. The 2017 report conducted all over the world is supported by the outcome that social media takes the first place in the aims of using the internet in Turkey research. The use of the internet takes place mostly at home whereas people are observed to increase the use of the mobile devices in order to access to the internet out of their homes.

The result from the aforementioned studies indicates that people's habits of using the internet can be utilized as a tool in order to support the quality of instruction. The design and the spread of the web-based instructional materials motivates them to lead their use of the internet towards more instructional purposes. Therefore, web-based instructional applications enables people to have the benefit of their fragmented time.

Considering the whole benefits mentioned above, it is expected from the education sector to transform this common habit into an education opportunity. Technology-based education seems to include different terminologies in the literature by considering the research in this field. All these terms stand for a cumulative structure, which is evolved in a following order. Some of the terms are e-learning, web-based learning, computer assisted learning, mobile learning.

The idea of incorporating electronic devices into education emerges as soon as they have just been invented and the transformational effect of technology on these devices create new ways to utilize these devices in education. It is highly possible to observe this effect in newly emerging teaching method. In short, it is necessary to accept that e-learning is relatively inclusive learning which covers all the other methods.

The core concept in mobile learning is considered that the electronic devices are carried easily and so they support the mobility in the everyday life of the learners. Computer based learning includes educational activities which are planned as either a web-based application

or a desktop application. This forms the basis of implementing the computer labs in educational settings and causes various formal educational activities to be carried out by the learners using the computer labs. These applications defined before are discriminated according to some significant features they own. The most important point discriminating mobile learning from the others is not only supporting the learning with the help of web-based mobile devices but also providing the opportunity for the learners to learn whenever and wherever they want to.

Some of the studies on the mobile learning are criticized because of the proposed learning design which ignores this discriminating feature of the mobile technology. For instance, vocabulary learning studies via SMS are attacked due to the fact that they send SMSs at on a fixed day and even at a fixed time. Besides, another widespread criticism levelled at SMS studies is one-way information conveyance generally from the instructor to the learners. Uttering this criticism, the researchers claim that mobile learning should be planned to be informal with the facility that support the interactions to become both between instructor and students and among the students. . "Another major consensus that learning in informal contexts is just as important as learning in the context of formal education" (Sandberg et. al. 2011)

Mobile Learning Pedagogy

Naismith et. al. evaluate the mobile learning in terms of existent learning theories and defines it under the headings which are behaviourist learning, constructivist learning, situated learning, collaborative learning, informal and life-long learning and under the heading of learning and teaching support. As a result, they try to prove that m-learning has a pedagogical base and its applications are parallel with the learning theories in some way or another.

The effort to base the mobile learning on the accepted learning theories is considered to be essential to eliminate the criticism that mobile learning has never been based on any theories. Mobile assisted learning studies conducted up to now should never cause the benefits of the mobile learning to be considered insignificant. Naishmith et. al. evaluate the mobile learning studies in terms of the learning theories and they indicate that the activities used in the mobile learning studies are the ones which support learning theories up to now in their review article.

Table 2

An Activity-based Categorization of Mobile Technologies and Learning

Theme	Activities
Behaviorist Learning	Drills and feedback Classroom response system
Constructivist Learning	Participatory sitimulations
Situated Learning	Problem and cse-based learning Content awareness
Collaborative Learning	Mobile Computer Supported Collaborative Learning (MCSCL)
Informal and Lifelong Learning	Supporting intentional and accidental learning episodes
Learning and Teaching Support	Personal organization Support for administrative duties (eg. attendence)

Adapted from Naismith, L. et.al. (2004). Literature Review in Mobile Technologies and Learning. (Report 11). UK: NESTA Futurelab.

Pedagogical Framework for Educational Technology

Park (2011) attempt to draw a pedagogical framework for educational technology and describes four different types which are high transactional distance and socialized mobile learning activity (HS), high transactional distance and individualized learning activity (HI), low transactional distance and socialized mobile learning activity (LS) and lastly low transactional distance and individualized mobile activity (LI).

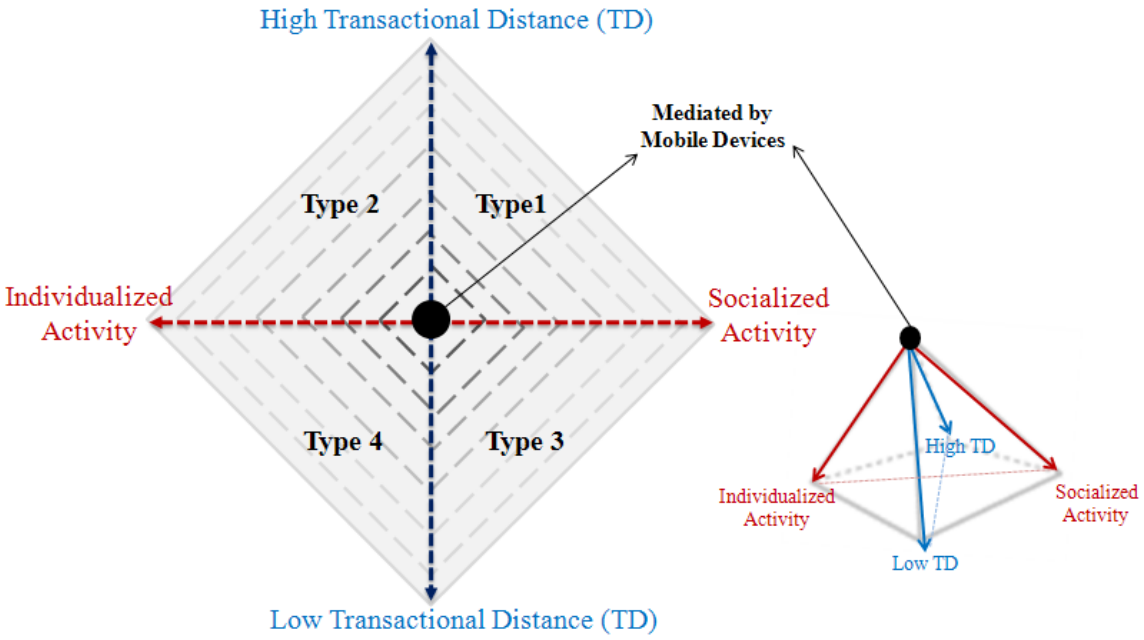

Figure 3. Pedagogical framework for educational technology. "A Pedagogical Framework for Mobile Learning: Categorizing Educational Applications of Mobile Technologies into Four Types", Park, Y., 2011.

In the first type learning called HS, there is no connection between the teacher and learners. It depends on mobile assisted instruction and the interaction among the students. It is observed that learners interact each other and learning stems from this interaction.

In the second type learning called HI, the learner personalizes the information gained from the system and there is a high transactional distance between the teacher and the learner. The learners construct the information on their own and learning occurs in that way.

The third type learning called LS enable the learner to communicate with both the teacher and the other learners. There is a highly interactive learning system. The teacher facilitates the learners and the learners share their information and the opinions each other. The learning occurs in that way.

The forth and the last type learning (LI) covers mobile based learning which enables the communication between the learner and the teacher. The learner gain the knowledge individually by the help of the interaction with her teacher. While the researcher indicates the sample studies which support this framework, he reveals the aim of his study like that "Despite the great potential mobile learning has and the innovative development of mobile technologies, a theoretical framework in which to review diverse mobile learning projects in the context of distance learning has been lacking" Park (2011).

The Use of Technology in Language Teaching

Thanks to the developing technology, the tools to improve language instruction have been increased day by day. The first studies related to the area of technology assisted language instruction started with language labs by the help of computer technologies. In 1940s, Audio-linguistic method based on behaviourism brought out and offered language labs to teach language by practicing orally chunks and drills. Chinnery (2006) stated that "Influenced by behaviourism, the lab was progressively replaced in the 1960s by drill-based computer-assisted instruction, which decades later was itself surpassed by a more intelligent, interactive and multimedia computer-assisted language learning." Every new technology

adds more features to teaching and learning environment and help learners be more independent and autonomous.

Hui et al. (2007) states that technology- assisted language teaching is more possible in some areas of language learning such as vocabulary, reading and grammar than the other aspects of the language learning such as live speaking drills or role plays. Learners need some real and face to face experiences to improve their speaking skills. On the other hand, some skills or sub skills of the language require more repetition than the others such as vocabulary and grammar subskills or listening and reading skills. Therefore, it is necessary for the teachers to define their objectives in order to utilize technology in their lessons.

On the other hand, not only teachers but also learners can define their own goals in language learning. Therefore, in order to offer more personalized language learning experiences, technology is invaluable resource. Ma & Kelly (2006) reveal that another important trend (in CALL) is for learners to be given much freedom as possible to choose what to learn and how to learn.

Computer Assisted Language Learning

Computer assisted language learning (CALL) is a really broad term. It means that learning or teaching a foreign language by the help of computer. There are two different types of material used in a CALL class. First type is the programs and some software systems are not directly related to language learning such as videos, online news texts, power points or word processors, digital or online dictionaries or corpus. These kind of materials are used to teach or present the language item to students.

The second type of materials are ones designed for teaching and learning language directly such as active teach DVDs, CDs for classroom audios, online practices provided by course book, etc. These are designed for teaching language in and out of the classes.

Technological devices can be easily programmed according to the aim of the teaching approaches and methods. Historically, technology has been improved and shaped according to the needs of humanity. Therefore, it is obvious that CALL has a multi-faceted structure during the history. CALL itself has gone through several phrases of development as a field; the terms behaviouristic/structural CALL, communicative CALL and integrative CALL … although chronological in part, as well as to the evolution of the technologies themselves (Stockwell, 2007).

Educational approach based on behaviourism brings some approaches such as oral approach and situational language teaching (between 1930-1960) and audiolingual method (mid-1950). These methods see the learning process as a stimulus response process. By the way drills and exercises are unavoidable in every phase of language teaching. Tape recorders and audio-visual equipment often have central roles in these courses. "… a taped lesson may first present a dialogue for listening practice, allow for the student to repeat the sentences in the dialogue line by line, and provide follow-up fluency drills on grammar or pronunciation." (Schmitt, 2000, 63-64). Therefore, from the beginning, technology has a significant effect on the language instruction obviously. The computers and the other technological devises are so suitable for students to be exposed to the language more than once and do practices for many times.

Computers are perfect mediums for fluent communication. Learners are easily use these mobile devices in order to convey their messages to one or many people spontaneously. There are many applications have been used for communication. Learners use them daily without any threat or time pressure. Therefore, it does not seem so difficult to use these technological devices for real communication but in language teaching perspective. These devices can be used to encourage the learners to express their opinions and share their ideas without any time or place limitation. In Dinçer's study (2014) using social media as a supplementary material has a positive effect on learners' vocabulary learning achievement.

Today technology aids teachers to produce their own teaching materials. There are many useful websites and applications which provide support to teachers so that they can easily create their own teaching materials according to their students' variable needs. Course books are far away to live up expectations of both teachers and students. They fall short for their changing needs and diversity of the classes. Computer assisted language learning offers different kinds of practices and activities which can be shaped according to the requests and needs of the learners and the teachers of course.

Ma and Kelly (2006) conducted a study on Chinese students' vocabulary acquisition through a computer-based system called WUFUN. The researchers used an achievement test, a questionnaire and an interview to see how successful the system is to support the students gaining new vocabulary. Considering the results, the two groups, who are classified as individual use and classroom use, both could acquire the vocabulary perceived as difficult both receptively and productively. They also stated that learners attitude towards the software never affected the learners' outcomes.

Besides, some corpus-based studies are good examples of using technology in ELT. In Paker's study (2014), corpus-based activities are compared and contrasted to the text-based activities in terms of vocabulary learning. The results show that corpus based activities are more effective than using textbooks to teach and learn new vocabulary items.

Mobile Assisted Language Learning

With the claim that they aim to propose a theory of learning for a mobile society, Sharples at al (2006) defines mobile learning as "the processes of coming to know through conversations across multiple contexts amongst people and personal interactive technologies. They claim that in order to learn, a person or a system must be able to converse with itself and others about what it knows. They added the technology might provide or enrich the environment in which conversations take place. According to this definition, it is possible to see the different applications of this mobile technology in language education.

Mobile assisted language learning (MALL) stems from the changing and developing technology. By the help of wireless technology, everyone can easily carry their PCs in their pockets easily, which enables people to learn anytime and anywhere they wish. "MALL differs from computer-assisted language learning in its use of personal, portable devices that enable the new ways of learning, emphasizing continuity or spontaneity of access and interaction across different contexts of use (Kukulska-Hulme 2008). After computer labs, language learning can be shaped by personal interests and wishes via mobile technology.

According to Kukulska-Hulme and Sharples (2008), "mobile learning refers to learning mediated via handheld devices and potentially available anytime, anywhere". They also categorizes mobile learning studies under two approaches which are content-related and design-related. In terms of content-related mobile language learning, learning happens in a more formal way, and content is produced for language classrooms. That is, the mobile devices are generally used for content delivery generally from the teacher to the students. Interactions belong students never happens or is too limited. It is stated in the study (Kukulska 2008) that while content related approach supports one-way teacher-to-learner communication and use the mobile device to deliver content, design-related approach encourages learners to communicate with each other and their teachers. They added that by the help of the second approach, learners define their own learning and even provide materials to other learners.

At the very beginning, the cell phone phase of the mobile technology, researchers use its SMS-like facilities to find out its pedagogical benefits. “Many of the studies … content-related MALL activities, appear to subscribe to a model whereby materials are delivered to learners via SMS or a website (Kukulska-Hulme 2008).” Recently developing mobile technology improves the language instruction and offers new ways to integrate learners into learning process actively. “With the development of mobile systems that can access the Internet, more sophisticated applications which allow the use of databases and interactive web content have been made possible” (Stockwell 2007). More developments occur in mobile technologies more scientific studies are conducted in the English language teaching field. Today the smart phones, tablet computers and many other mobile devices offer language learners to be online and to be connected to the world wherever and whenever they want.

Chinnery (2006) claims that mobile technologies clearly offer numerous practical uses in language learning and he adds that “in language learning, all of these features enable communicative language practice, access to authentic content, and task completion.” However, mobile learning seems to have the facility enabling to occur communicative language practice, most of the studies on mobile language learning are content-related, that is, most of them only deliver contents to the learners. Because of the problems of synchronous scheduling, it is not claimed that teacher-student or student-student interaction is achievable (Hulme, 2008). On the other side, with the developing technology it is possible to reconsider the definition of communication or it can be added new features to the communication term. Possibly, the communication do not have to occur for the participants at the same time, especially in educational settings.

In Yıldırım’s study (2012), a game-based application is developed for the learners at the fifth grade to learn and practice the target vocabulary. It concludes that educational games increase students’ motivation and success in English lesson.

In Gülcü’s study (2015), Turkish vocabulary is aimed to teach the foreign students in Turkey and some SMS and MMS messages are sent to the students. According to the results, the students using m-learning for vocabulary teaching are found more successful than the students learning vocabulary in a traditional way. Moreover, the students are stated to be satisfied with the mobile assisted vocabulary teaching and they express positive opinions related to the mobile learning.

In Özer's study, students become aware of the applications they can easily use to learn English and the researcher aims to find out how effective these applications on students' achievement and what the students' attitudes are towards these tools. The researcher also investigates the cognitive load of the planned activities, which contain the usage of the online applications, on the students in experimental group. The results show that various online applications have positive effect on students' achievement and attitude toward using online tools in their English learning process. Moreover, it is stated that the students in the experimental group are underloaded cognitively compared to the students in the control group.

Advantages of MALL

The first advantage of using mobile technologies in education is that it supports bite-sized learning. It means that the learners do not have to learn all subjects in one-hour lesson. The information can be divided into meaningful pieces and can be given in short but separate times. This avoid the tiring and long lessons in the campus.

Mobile learning also provides just-in-time learning. A well designed lesson can provide different kinds of videos, audios, texts and various resource just in time. Therefore, the learners can do their own research online and can find answers to their questions via internet connection. "Mobile networked technology can enable people to gain and share information wherever they have a need, rather than in a fixed location such as a classroom." (Sharples, 2006)

Mobile learning offers self-directed learning. Thanks to mobile technology, mobile learning can be varied with different kinds of activities. Learners who have different learning styles can benefit from this kind of instruction because they can shape their own learning easily and consciously. Hence, mobile learning supports self-directed learning and autonomy of the learners. "One of the most noticeable advantages of mobile learning is the increase of learners' autonomy. Students have the freedom to access the learning tool and resources anytime and anywhere" (Suwantarathip & Orawiwatnakul 2015). Besides providing a learner-centred platform, MALL has many benefits for the language learners by the ways as Burston (2014) stated below;

> There is every reason to expect that MALL can make significant contributions to improving language learning, most particularly by increasing time spent on language acquisition out of class, by exploiting mobile multimedia facilities to complete task-based activities, and by using the communication affordances of mobile devices to promote collaborative interaction in the L2.

By the way, mobile assisted language learning provides users to learn according to their pace, and help revision of the newly taught topic in every aspects of language learning. In terms of vocabulary learning, "mobile devices allow learners to be exposed to spaced repetition of vocabulary items, which is believed to be more effective than massed repetition" (Mahdi, 2017).

Another benefit of MALL is that the knowledge is presented in a multimodal mode to the learners. While the knowledge can be presented in the form of visual, audial and audio-visual, MALL manages the learners to remember the knowledge by addressing to more than one sense not to memorize the information. On the other hand, it enables learners to revise the information acquired using different modes. Especially in vocabulary learning, researchers design studies in which students are assigned to present newly taught words by the photos as visually and by the vine videos as audio-visually. Thanks to such assignments, it is observed that students motivation increases and moreover the newly taught words retain longer in memory.

Game-based learning is often observed in mobile learning. Thanks to the structure of web-based applications enabling in-class competitive games, the learners easily learn the content presented peripherally because the learners focus on the entertainment not on the learning part of the game. It seems essential to design in-class activities using game-based applications in order to increase the motivation of the learners but also to make some demanding activities including repetitions more enjoyable. As a result, there are many game-based language learning activities available.

Challenges / Disadvantages of MALL

Today most of students have at least one of the mobile devices such as smart phones, tablet computers or laptops. These mobile devices are generally connected to some internet servers, which might be given by educational institutes or by their own accommodation such as dormitories or their own houses. In Turkey, every commercial institution like cafes, restaurants or even the coaches between cities have internet features and everybody can easily access this feature via their mobile devices comfortably. On the other hand, educational institutions in Turkey are not as successful as commercial ones. Moreover, providing internet features are not acceptable in these institutions. Students generally misuse this kind of facilities. Internet and technological devices seem to be distracting classes. The other reason for lack of internet facility is its expensive infrastructure.

Another disadvantage could be the misuse of the internet connection. Most of us are distracted easily by the news and some advertisements during the time of surfing on the net. Another consent about the mobile technologies in classes is the misuse of the internet by the learners and this distraction by the irrelevant information.

MALL implementations might fall short of its expected success due to some technical difficulties such as voice recognition system failures or some downloading errors. Scheduling might be difficult especially for some interactive, synchronous speaking activities. Another challenge for MALL studies is the cost of the end users. Students might be reluctant to engage actively in the online studies due to the financial considerations.

The virtual world changes incredibly fast and its outcomes such as websites and mobile phone applications are changing very fast and are becoming obsolete in a very short time (Chinnery, 2014). Changing trends in the virtual world makes the course design difficult for the teachers and gets learning process harder for the language learners, as well. This causes extra burden on the language teacher to keep up with the new online sources for the sake of integrating technology into their classroom.

Devices of MALL

Mobile devices are defined as a computing device small enough to hold and operate in the hand. There are many kinds of mobile devices such as, tablets, smart phones, e-readers (special tablets for reading digital books), iPods, PDAs (Personal Data Assistant) etc. Chinnery (2006) named many devices which are cell phones, PDAs, iPods, in his study about mobile learning. These devices have some beneficial features such as Wi-Fi or cellular access to the internet, a battery that powers the device for several hours, a physical or onscreen keyboard for entering information, size and weight that allows it to be carried in one hand and manipulated with the other hand. Most of them also have touch-screen interface and they enable the users to download data from the internet, including apps and books. Most of them offers wireless operation.

Most of mobile devices above seem to be used in many educational studies for different purposes. For instance, cell phones are used to teach vocabulary by the help of its SMS feature at the very beginning of MALL research. IPods are generally used for listening activities and studies on learners' pronunciation. E-readers are claimed to be efficient for reading.

Research on MALL

Chen (2013) defines mobile assisted language learning (MALL) as the formal or informal learning of a foreign language with the assistance of mobile devices. As expected, mobile learning provides personalized, enjoyable and supplementary learning opportunities, so there are variable studies related to vocabulary learning via out-of-class activities. One outstanding kind of these out-of-class studies are SMS researches which are specifically the earlier ones (Hayati et al 2013, Kim 2011, Kennedy & Levy 2008,) "Empirical studies of the use of mobile phones in language instruction have focused primarily on the use of the Short Message System (SMS) feature." (Golonka et al. 2014) There are many studies proving the effectiveness of SMS containing the new vocabulary items and sent to the learners of English. Some of the SMS studies investigated its effect on achievement of vocabulary learning (Alemi et al 2012, Azabdaftari & Mozaheb 2012, Derakhshan & Kaivanpanah 2011) whereas the others found out how the students' attitudes to mobile learning via SMS were (Cavus & Ibrahim 2008, Kennedy & Levy 2008) on the other hand some studies investigated both achievement and attitudes of the participants (Tabatabaei & Goojani 2012). In these studies, participant's attitudes are generally positive to the vocabulary learning via SMS, on the contrary, the results related to the vocabulary gains contain contradictions.

"The focus of MALL research has gradually shifted from content-based (delivery of learning content through mobile devices) to design-oriented (authentic and/or social mobile learning activities) study" (Wong & Looi, 2010). Some researchers use some web-based applications and contents mostly designed by the researchers themselves in the second type of studies. Wu's study (2014) aims to investigate the effectiveness of smart phones on the vocabulary learning of college students. Both experimental and control groups are assigned to study 852 words during the semester. The only difference is that the control group study these words on their smart phone application. The experimental group can make their unknown word list and listen to the American pronunciation of the words via their smart phones. This study shows that the experimental group outperformed the control group significantly. Another study by the same researcher focuses on the effects of smart phone application on vocabulary learning. The researcher designs a smart phone app including Unknown words function, which is a word list students can create to look at afterwards, and Sample Test function which produces vocabulary tests to check the learning of the students. It is found that the students have better results in acquiring new vocabulary than those in the control group. (Wu, 2015)

Studies on vocabulary teaching via technology generally focus on the difference of vocabulary gains between traditional vocabulary teaching based on paper and pen and vocabulary instruction using technological devices. A comparison study about the medium used for learning vocabulary is conducted to the students in academic English class. Kılıçkaya and Krajka (2010) uses ten reading passages to teach vocabulary using a glossing program online and traditional paper-based way. They conducted an experimental study and used pre- post- and delayed post-test to compare students' achievement between the two groups. The results show that the students who uses online glossing program to read the passages and learn the words from context significantly outperformed than the traditionally trained group in post and delayed post-test.

A similar study was conducted in Iranian settings by Gorjian (2011). The researcher prepared 12 expository passages and made the first group read them on papers and only use dictionaries and offers the other group web-based texts including a variety of glosses or annotations for words in the form of text, graphics, video and sound. The students only read for comprehension of the text and learn the words not on purpose only peripherally. Results show that "There was a significant effect of Web-Based Language learning approach on the retention of vocabularies in the short term. However, the delayed post test results that effect of the treatment in the long term has faded away." (Gorjian, 2011).

Another study related to vocabulary teaching by mobiles is conducted to compare two ways of teaching which are mobile phones and flash cards. In Başoğlu and Akdemir's study (2010), results reveal that students who use vocabulary programs in mobile phones significantly outperformed than the students who use flashcards to learn the same vocabulary items. According to the qualitative data related to this study shows that students who uses mobile devices to learn words have positive attitudes towards learning vocabulary via mobiles.

Some studies focus on vocabulary teaching by using game-based mobile applications. In Sağlık's study (2017), game-based vocabulary teaching is conducted on the students at preparatory school. According to the results, the gamified vocabulary learning has positive effect on students' motivation in experimental group whereas there is no statistically meaningful difference between the achievements of the students in the experimental group and control group.

Not only the comparison between the traditional way, which includes PPP approach in class, and technology based learning but also the comparison between the mobile platforms, that

is, mobile phones and laptop computers is made by the researchers. In Stockwell's study (2010), the results show that there is not a significant difference related to the achievement on vocabulary acquisition and preference for the aforementioned devices. However, it is revealed that using mobile phones takes more time to complete the vocabulary activities than using laptop computers.

When being looked at the types of technological devices used to teach vocabulary in classes, the interactive white boards (IWB) should be mentioned. In Katwibun's study (2014), it is aimed to investigate the students' vocabulary knowledge, participation and attitude when an IWB is used for vocabulary teaching in classes. Three 50-minute lessons have been planned as presentation, practice and production process. This process was given with three IWB instructional media packets. In order to collect data, observation checklists filled by the students, post-teaching teacher's written reflections and 20-item post-test have been used. According to the study, "it illustrates that implementing IWB in vocabulary teaching demonstrated success in students' academic performance not only in student participation in the classroom, but also their attitude." (Katwibun 2014)

Some researchers have focus on the perceptions of the learners about the technological devices in vocabulary learning. Hu's study (2011) aims to define how mobile phone is perceived as a language learning tool. A questionnaire survey and an interview are conducted after 4-week vocabulary learning experience assisted by mobile phones. For this aim, 24 adult learners are sent a text message containing 5-item with their spellings and explanations in both Chinese and English at 11 a.m. on week days. It is stated that the overall response to vocabulary learning assisted by mobile phone was significantly positive.

Another study is conducted by Uzunboylu and Ozdamlı (2011) on the teachers' perspectives related to m-learning. They create a survey containing 3 sub-dimensions (Aim-Mobile Technologies Fit, Appropriateness of Branch, Forms of M-learning Application and Tools' Sufficient Adequacy of Communication) and conduct this survey on 467 teachers from four different branches, social sciences, arts, language literature, and science and mathematics. Totally, the teachers' perspective on M-learning is positive, there is no difference among the branches of the teachers but male teachers have more positive perspective than females. Aydın's study (2013) focuses on EFL teachers' perspective on the use of computer in Turkey. The results reveal that Turkish EFL teachers encounter some difficulties using the software programs and they are not provided technical and instructional support despite of the fact that they have positive perceptions of computer aided instruction.

The present study aims to investigate the effect of MAVA on students' vocabulary acquisition comparing with the effect of vocabulary extension worksheets on students' achievement on vocabulary acquisition in terms of gains in orthographic, pronunciation and meaning features of the target vocabulary. For this aim, a pre-test and a post-test (see appendix 2.1 and 2.2 for tests) are prepared with 58 items assessing both productive and receptive vocabulary knowledge of the students. The experimental groups' scores from the two subsections assessing meaning recognition and recognition of the target words by listening are significantly higher than the control group' scores although total scores from control and experimental groups do not show a significant difference. According to the data from the interviews with both experimental group and the control group, students from both groups have positive attitudes towards the different types of vocabulary extension activities and they add that these activities help gain new vocabulary items and learn them easily.

CHAPTER 3

METHODOLOGY

This chapter includes research questions, research design, the context of research, participants of the study, classroom procedure, and data collection tools of the study. In the study, the researcher aims to investigate the answers to the questions below:

1) Are there any significant differences in vocabulary knowledge of the experimental group using MAVA and the control group using vocabulary extension worksheets?
2) What are the attitudes and opinions of the students related to both vocabulary worksheets and the mobile assisted vocabulary application for vocabulary development?

Research Design

In the study, it is aimed to compare the effects of two different types of vocabulary extension activities on learners' vocabulary acquisition; as a result, students in the experimental group are assigned to practice newly taught vocabulary, using MAVA after class while the students in the control group are assigned to complete vocabulary extension worksheets as out-of-classroom activities. In the study, quasi-experimental research was conducted and the research design of the study was comparison group design. Before implementation, all participants take a vocabulary pre-test in order to define their vocabulary knowledge. The assignments are given during the 12-week period in 2017 spring term. At the end of the implementation, the vocabulary post-test is conducted in order to define how much vocabulary acquisition occurs. At the end of the study, participants from the two groups are conducted a semi-structured interview (see appendix 3.1 and 3.2 for interview forms) so that participants can state their own thoughts and perceptions related to the both types of vocabulary extension activities.

The Context of Research

The setting of this research study was a state university in Turkey. The study was conducted at TÖMER (Turkish Language Learning Research and Application Center) at Gazi University. At this centre, students from different departments of the university and out of the university enrol for the general English courses and they start the course according to their English level. The general English Course contains a hundred lessons during twelve weeks, eight-hour lessons a week. The students take four lessons a day and attend only two days a week. There is no obligation for attendance of the lessons. The aim of the course is to raise the English level of the students in an integrated way. The lessons are tailored with the activities based on four skills (reading, writing, listening, speaking) and three subskills of the language (grammar, vocabulary, pronunciation).

Participants

This study is conducted with the participation of 29 university students from different departments of Gazi University. They are varied from the age of 18 to 25. They are A2 levels English learners. These 29 students are divided into two groups as experimental and control groups. Due to the absence of procedures for randomly allocating research subjects to experimental conditions, the experimental group contains 18 students who are 10 females and 8 males and the control group contains 11 students who are 9 females and 2 males. The participants are A2 level English language learners and they choose to attend the classes at the weekend. The students in experimental group used MAVA to expand their vocabulary learnt during the lessons. The students in control group completed vocabulary extension worksheets, redesigned by the researcher.

Classroom Procedure

The language classes are based on four language skills and three language subskills and the learners take lessons in an integrated way. The course book provides vocabulary activities integrated into the language skills such as pre-reading or pre-listening warm up activities. The learners are supposed to focus on the vocabulary before dealing with the reading, listening and so on. In some units, the book provides visuals related to the vocabulary in the unit at the end of the book as a part called photo bank. All the aforementioned activities are

done in the classrooms of the both experimental and control group. In the study, it is aimed to define the effect of the out of classroom activities, which are the vocabulary extension worksheets, and mobile assisted vocabulary application.

A mobile-assisted vocabulary application whose content is designed by the researcher is used by experimental group. This application contains eight different types of vocabulary extension activities to practice spelling, pronunciation and meaning of the words learnt in the units of the course book, Speakout 2nd edition elementary course book. For the control group, twelve different worksheets are prepared according to the course book units and are used in this study. At the end of the study, a semi-structured interviews designed by the researcher are conducted on the participants in the experimental group and control group separately in order to find out their perceptions and opinions related to MAVA and vocabulary extension worksheets.

The list of the words is defined according to the course book used in the general English course for A2 level language learners and by the help of English vocabulary profile corpus. In this study, there are 719 items are taught and tested. 174 of these items are lexemes such as collocations (e.g. get hungry, get married, etc.), phrasal verbs (e.g. look after, etc.) or compound nouns (e.g. fair hair, identity card, etc.). It is aimed to teach 719 vocabulary items (e.g. wet, turn, salesperson) and lexemes (e.g. sandwich bar, put on, ride an elephant) to the A2 level language learners.

In order to teach these words by the help of MAVA, the words which can be represented by a photo are chosen; therefore, the words cover verbs, adjectives, nouns and some prepositions. Almost all words are concrete words so as to find them suitable photos to represent these words in the application so that translation would not be used. The vocabulary list is used as the content for both the mobile assisted vocabulary application and vocabulary extension worksheets. That is, both MAVA and the worksheets contain the same number of vocabulary.

Twelve vocabulary extension worksheets are handed out to the control group during the study. These worksheets contain the pre-defined words at least once in an item; therefore, one worksheet can be two or three pages long according to the vocabulary size of the unit. They are actually Speakout Vocabulary Extra worksheets. The researcher reorganizes the worksheets according to the word list used in the study in order to equate the number of the words, which the two groups would learn.

The researcher gives general English course during the spring term in 2017. The groups are defined according to a placement test parallel with the Speakout course books (from A1-B2) and according to the students' demand on the time of the course. Therefore, the experimental group has 22 A2 level students while the control group has 14 A2 level students at the beginning of the study. During the term, lessons are based on the activities related to the four skills of the language (reading, listening, speaking, and writing). Both classes have English course based on an integrated approach. The only difference between the two groups is the vocabulary assignments. The experimental group are assigned to do the vocabulary activities via MAVA. The control group has vocabulary worksheets to practice the new vocabulary items. In order to equate the conditions, the students in the control group are assigned to find the new words on an online dictionary, listen to the pronunciation of the words, and repeat them because the experimental group can practice the pronunciation of the word by the help of MAVA activities.

Vocabulary Extension Activities

Vocabulary extension activities are the activities which the students are assigned to do out of the classroom and defined and detailed below.

Mobile Assisted Vocabulary Application (MAVA)

This application is developed by a private software company and covers different types of activities to practice new vocabulary items. The application is accessible from a web browser, either on a desktop computer (PC) or on a mobile phone. In this study, eight different types of activities are used and the content of the application is designed by the researcher. It is based on the vocabulary parts of the aforementioned course book and English Vocabulary Profile Corpus. The course book is used to define which words and word phrases are going to be taught in which units. The word list is made up by the help of the course book. After the word list is defined, the researcher collects the data including the meaning of the word and a sample sentence containing the target word by the help of English Vocabulary Profile corpus. The photos representing the meaning of the words or phrases are downloaded from Google images and the word audios are gotten from text to speech sites by the researcher.

A CALL program should be targeted to a particular group of learners who have in common a series of characteristics (Ma & Kelly 2006). Based on this criterion, the MAVA content is limited to our target group and accordingly their level of English knowledge. The target word list is categorized according to the topics in the units of the course book. Thus, the MAVA contains twelve units and every unit had word groups, which cover between eight and twenty words related to a topic such as countries, nationalities, body parts, etc.

MAVA contains a teaching part for each group of vocabulary, which includes the word itself, its definition, a representative photo and its pronunciation. After this teaching part, eight different types of activities take place to practice the pronunciation, spelling and meaning of the word. The parts of MAVA are described in detail below.

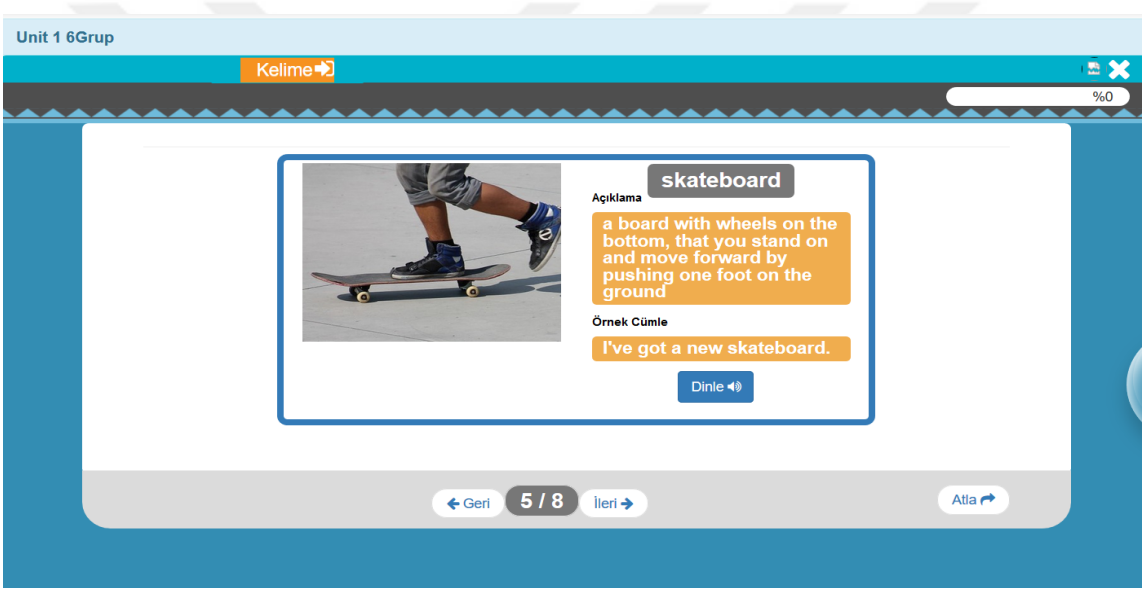

Figure 4. Teaching part of the MAVA

MAVA contains a teaching part for every word group designed according to the topic in the units of the course book. In teaching part, each word has its written form, a representative photo, the definition of the word, a sample sentence, which the target word is used in. Moreover, there is an icon for listening to how the word is pronounced. The learner use the icons (geri-ileri) to turn back the previous word or go on to the next word. Moreover, the learners can use the skip icon to pass the teaching part and can start the practice part. After learning the words in the group, students start the activities related to the words they have just learnt.

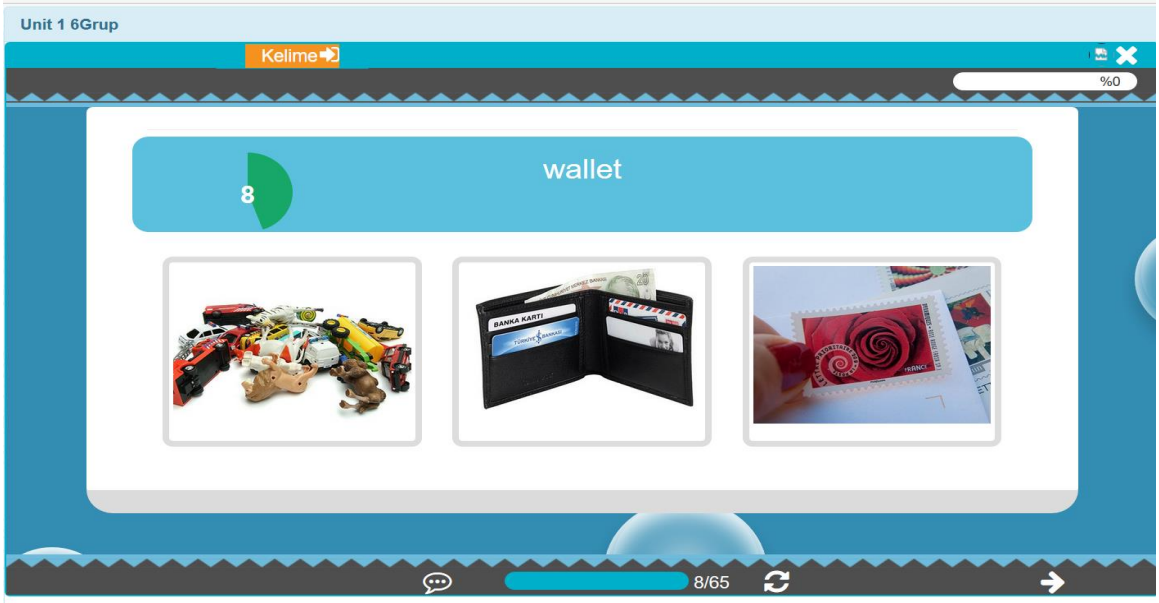

Figure 5. Read and find part of the MAVA

In practice part, a word takes place in eight different types of activities. The first one is Read and Find in which the written form of the word given and the students are supposed to choose the correct photo from the three options. To find the correct answer, the learners have 15 seconds. The time limit is supposed to be a challenge for students to complete the task with enjoyment. This game-like feature keeps the learners alert.

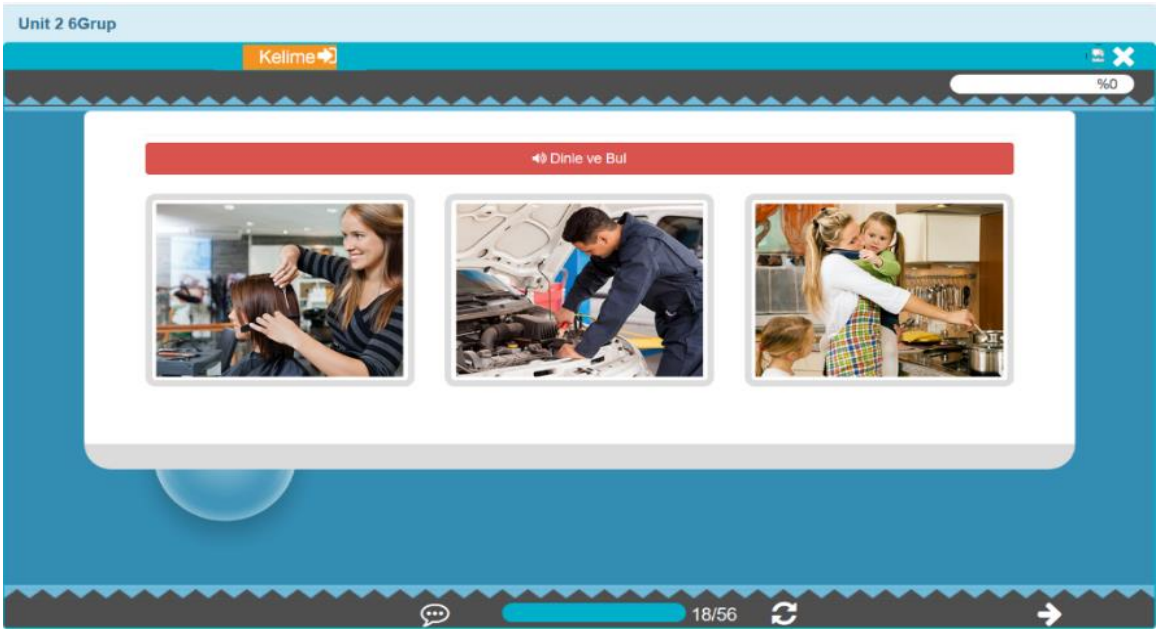

Figure 6. Listen and find part of the MAVA

Listen and Find activity presents the audio of the word pronunciation and asks students to listen to the audio and to choose the correct option from three photos. The learners can listen to the audio how many they want. Thus, learners can be exposed to the word pronunciation easily.

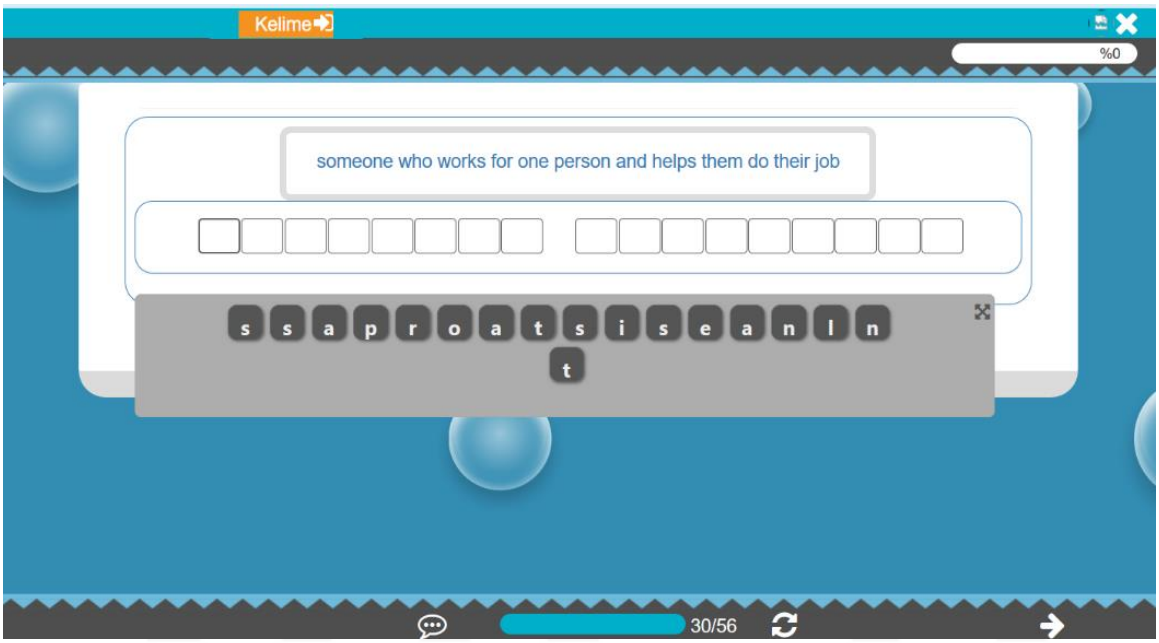

Figure 7. Read and write part of the MAVA

Read and Write part contains the definition of the word or word group and asks students to write it with the help of the given letters. The students who uses their personal computers can write the word using their keyboards while the students who use their smart phones can write the answer by touching the correct letters in the correct orders in these types of writing activities.

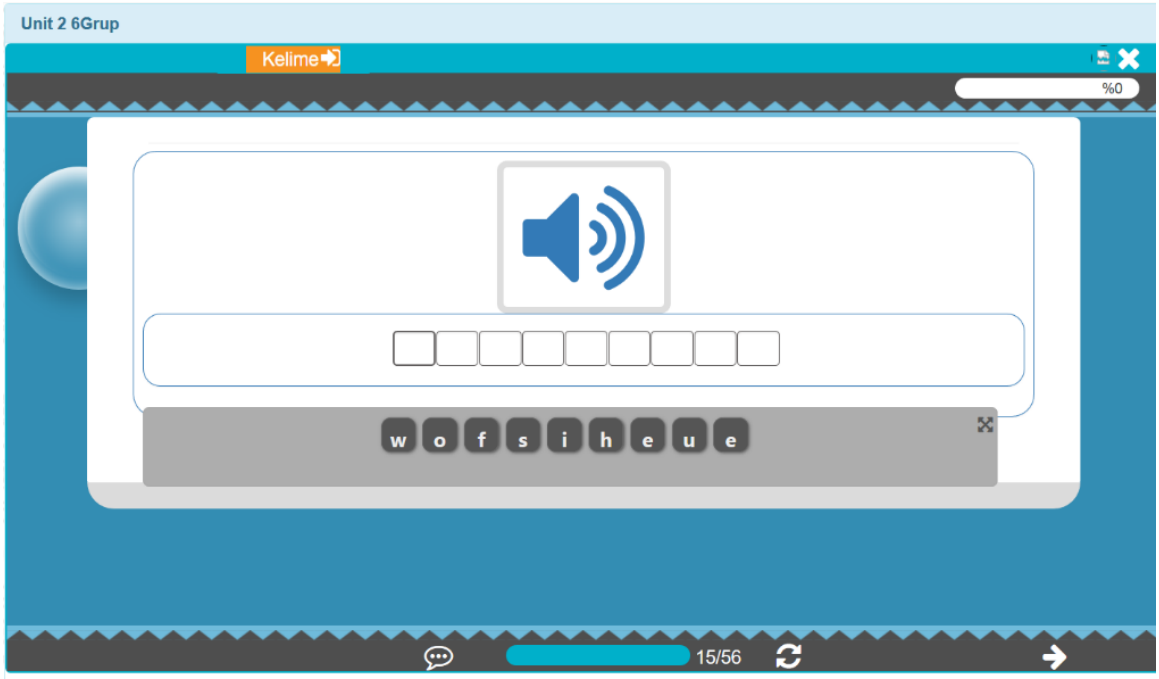

Figure 8. Listen and write part of the MAVA

Listen and Write part presents the audio of the word and the clue that helps students figure out how many letters the word contains and the letters with a few extra ones. The students are supposed to listen to the audio and to write the word by the help of the given letters.

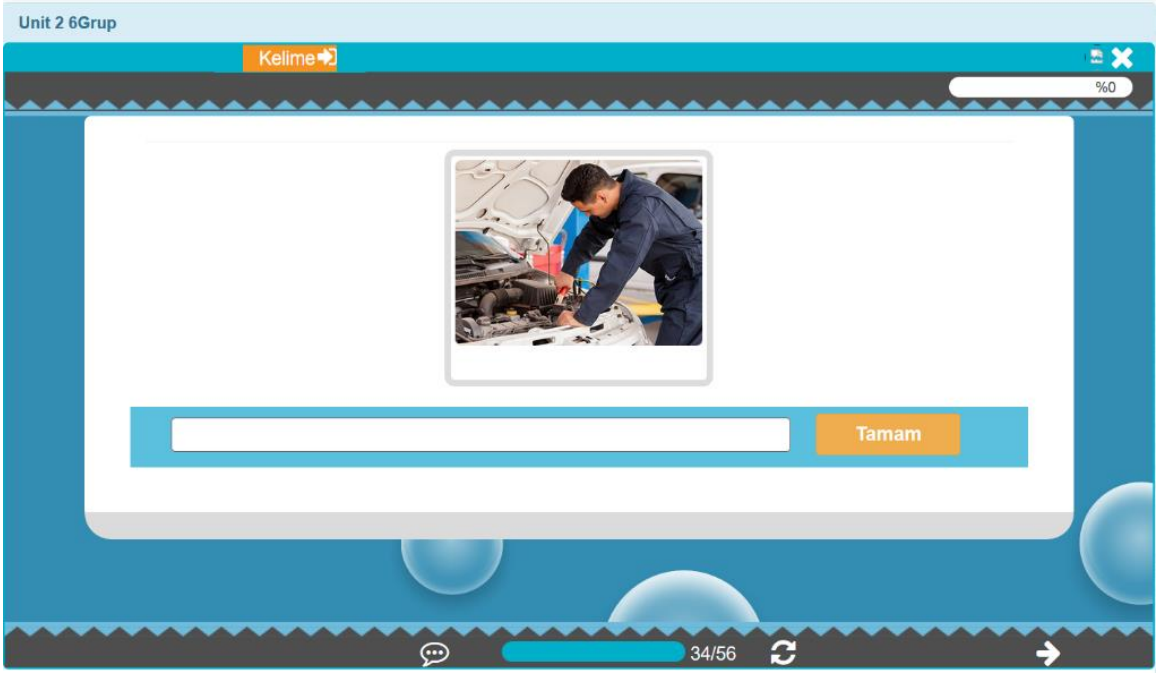

Figure 9. Look and write part of the MAVA

In Look and Write activity, students are supposed to look at the photo related to the word and to write it without any help. The words are categorized by the topics such as jobs, countries, etc. Therefore, the learners can easily understand which word they are supposed to write.

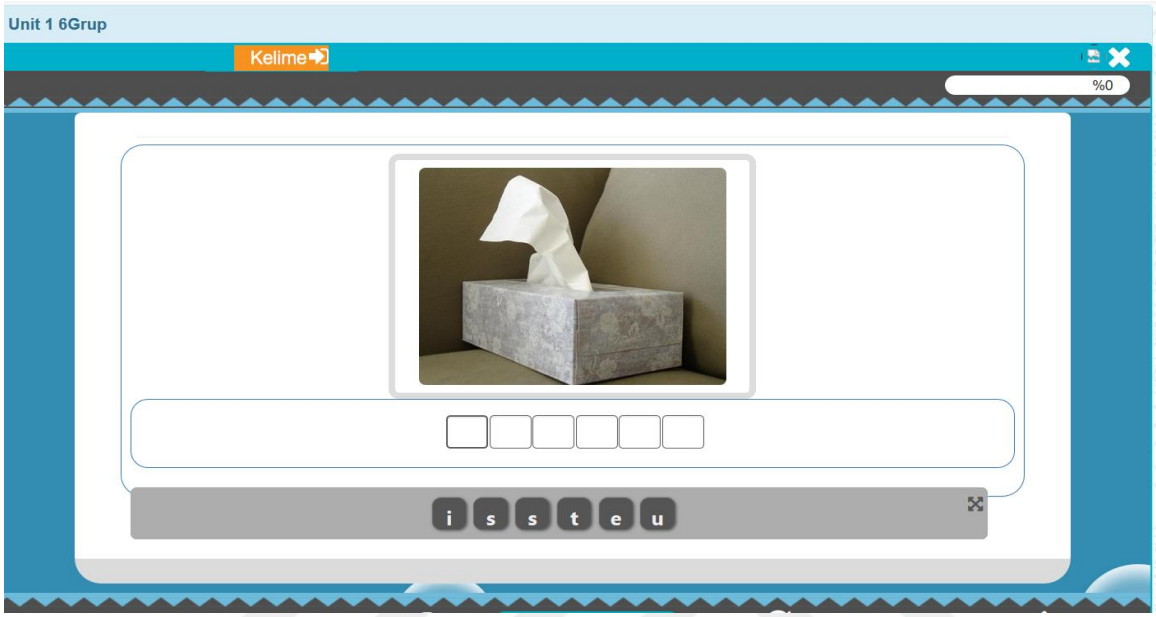

Figure 10. Look and write with clues part of the MAVA

Look and Write with clues activity asks students to look at the photo representing the word and write the word by the help of the given letters. The learners using their PCs can write the word on their keyboard on the other hand the learners using their mobile phones can write the words by clicking on the correct letters on the screen.

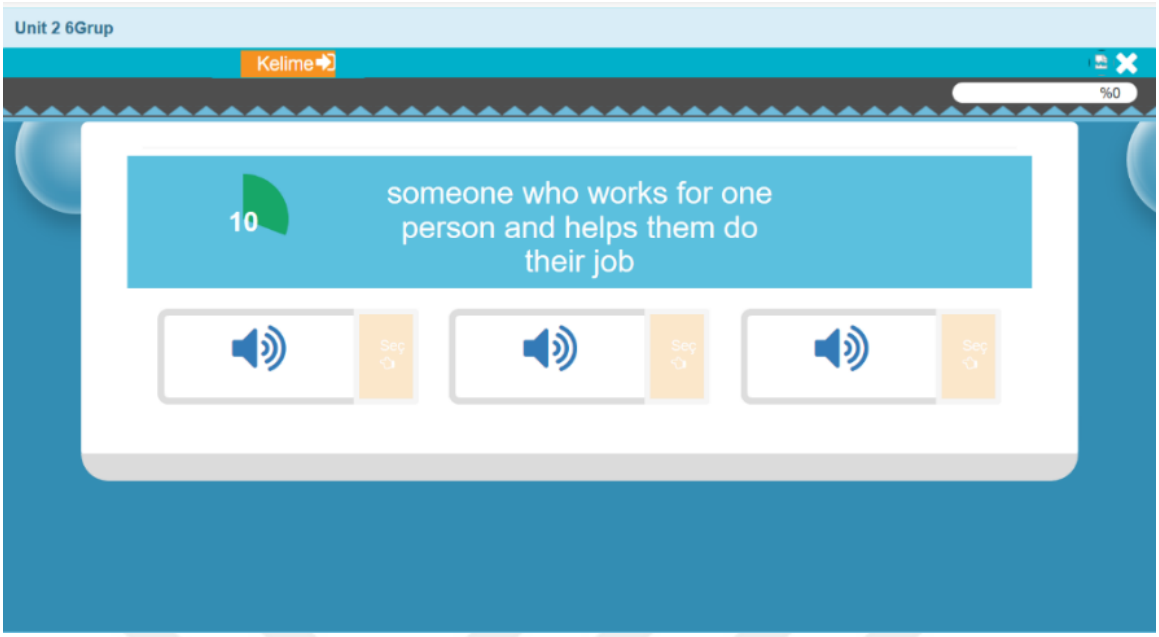

Figure 11. Read and find the pronunciation part of the MAVA

Read and Find the Pronunciation activity presents the definition of the word and three audios as options and the students are supposed to find the correct word by listening to the three options. This part also contains time limit to provide game-like challenge for the learners.

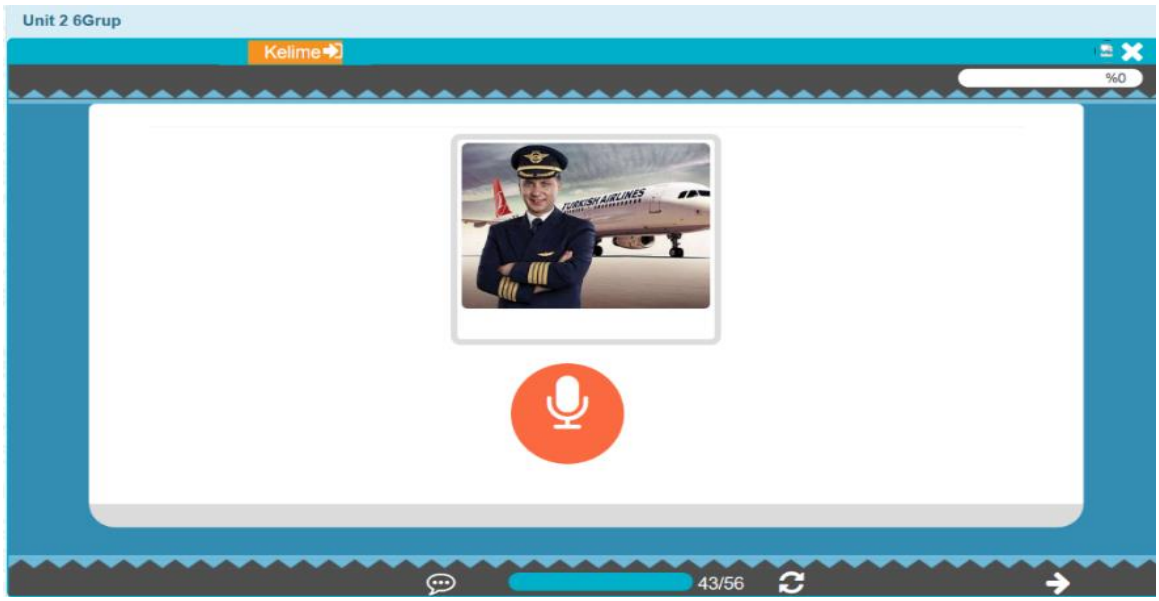

Figure 12. Look and pronounce part of the MAVA

In Look and Pronounce Activity, students are supposed to look at the photo of the word and pronounce it correctly by touching the microphone icon or clicking on it. They can try until they can pronounce the word correctly and this helps learner practice the sounds of the word.

These activities support learners to practice the newly learnt vocabulary items in terms of different features of the words such as spelling (writing the word correctly), pronunciation (to pronounce the word accurately) and the meaning of the word.

Vocabulary Extension Worksheets

These worksheets are provided by the publishers of the course book and reorganized by the researcher and added new words according to the target wordlist. These worksheets provided different kinds of exercises such as matching the words with their definition, puzzle, fill-in-the-blanks type, etc. Sample parts from the worksheets are shown in Appendix 1.

Data Collection Tools

In the present study, two identical vocabulary achievement tests are made up by the researcher and one of them is used as a pre-test to find out participants' vocabulary achievement. The post-vocabulary test is conducted after the implementation to discover the possible vocabulary knowledge gain of the participants. The reasons for the use of identical pre-test and post-test are to avoid the memory factor and to cover the target A2 level vocabulary list thoroughly. Due to these two reasons, identical pre-test and post-test were decided to be used in the current study. Mackey and Gass (2005) states that "one serious design issue relates to the comparability of tests. … One way to address this issue might involve consulting a word frequency index that lists words of the same frequency." In order to ensure the identical tests to be comparable, the test items were written according to their encounter frequencies in the course book.

> Another way of accomplishing to reduce the threat of test bias is to test all sentences on a comparable group of individuals to ensure that no test items are more difficult than others and if they are, to place a comparable number of difficult ones and a comparable number of easy ones in each test. (Mackey & Gass, 2005, p. 149).

Meanwhile, the test items were adjusted in terms of item difficulty after pilot testing. There was a satisfactory equivalence between two identical tests.

While these two vocabulary tests were used in order to obtain quantitative data, two interview forms were shaped to investigate the participants' attitudes related to the

vocabulary extension activities. For this aim, after implementation, some participants from both experimental and control groups are conducted these two forms. Thus, the qualitative data is obtained by the interviews.

Vocabulary Tests

Two identical vocabulary tests were prepared and examined by the experts and found valid. Cronbach-α is computed to find out how reliable of the results of the pre-test and post-test. Cronbach-α reliability coefficient for pre-test is found as 0, 90. Cronbach-α reliability coefficient for post-test is computed as 0, 92. It is stated that the results from the tests have high reliability due to the fact that the coefficiencies of both pre-test and post-test are higher than 0,70.

Two identical vocabulary tests, one of which was used as a pre-test and the other one was used as a post-test, were applied to compare and contrast the vocabulary knowledge of the two groups before and after the implementation. The tests were prepared to assess the knowledge of A2 vocabulary knowledge of the students and try to evaluate the target vocabulary list in the study (see appendix 4 for the target vocabulary list). Administration procedures including speed and time control were determined after a pilot study. Vocabulary achievement tests contain 4 parts called receptive oral, receptive written, productive oral and productive written parts. Both tests contain 102 items at the very beginning. After tests were piloted for item development, items with insufficient item facility, item discrimination and distractor efficiency indices were modified. After item analyses, there were 58 items left. First 10 items are related to recognition of what is listened. There are 16 items to evaluate the knowledge of how to write the words. 26 items aim to evaluate the word meaning. The last 6 items are for evaluation of the pronunciation of the words. Details related to the tests are shown in the table 3 below. The tests are shown in Appendix 2.1 and 2.2.

Table 3

Different Aspects of Vocabulary and theie Weigh in Achievement Tests

Different Aspects of the Vocabulary and their Weigh in Achievement Tests				
	Receptive Oral	Receptive Written	Productive Written	Productive Oral
Pre-test	1-10 items	20.-34. 42.-52. items	11.-19. 35.-41. items	53.-58.items
Post-test	1-10 items	20.-34. 42.-52. items	11.-19. 35.-41. items	53.-58.items
TOTAL POINTS	10 items X 2,5 (25 pts)	26 items X 1pt (26 pts)	9 items X 2 7items X 1 (25 pts)	6 items X 4pts (24 pts)

The mobile assisted vocabulary application which includes A2 level vocabulary extension activities were assigned to the students in the experimental group during 12 weeks and the worksheets including A2 level vocabulary extension exercises were given as assignments to the students in the control group during 12 weeks. At the end of the term, an interview was conducted to the participants in both groups in order to find out the perceptions and opinions about the implementations. At the end of the term, the data from the mobile assisted vocabulary application was also acquired. It was about the percentages related to the experimental group usage of the mobile assisted vocabulary application. Therefore, some qualitative and quantitative data was collected.

Semi-structured Interviews

Two different semi-structured interviews were prepared and at the end of the implementation, seven students from experimental group and four students from control group were interviewed. The semi-structured interview for experimental group contains twelve questions while the other interview for the control group contains eight questions. The interviews are in appendix 3.1 and 3.2.

Data Analysis

When homogeneity of variances, which is one of the assumptions of hypothesis testing (T-test), were investigated, all P values were seen as more than 0,05 and H_0 hypothesis, which is a stated assumption that there is no difference in parameters for two or more populations, was accepted. This is an evidence that variations were homogeneous; thus, the assumption was proved.

Table 4

Test of Homogenetiy of Variences

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
PRE-TEST	3,123	1	34	,086
POST-TEST	,619	1	31	,437
PRETEST LISTENING	,200	1	34	,658
POST-TEST LISTENING	,293	1	31	,592
PRE-TEST WRITING	3,250	1	34	,080
POST-TEST WRITING	,586	1	31	,450
PRE-TEST READING	2,965	1	34	,094

POST-TEST READING	,759	1	31	,390
PRE-TEST PRONUNCIATION	,329	1	34	,570
POST-TEST PRONUNCIATION	,065	1	31	,801

Shapiro-Wilk test was used in order to investigate the normality, which is another stated assumption of hypothesis testing. Shapiro-Wilk test was used in the study because it is a test which is used in the studies whose sample size are under 50. When this test was conducted in the study, it is observed that both experimental and control groups' scores in pre-test listening and post-test pronunciation, experimental group's scores in post-test listening and writing and control group's scores in pre-test reading were not ranged normally. Due to the fact that p value is under 0,05 in the aforementioned tests and sections, and H_1 hypothesis, which is a stated assumption that the data is not suitable for normal distribution, is accepted. Except from the aforementioned tests and sections, distribution normality assumption is proved in the other sections.

Table 5

Tests of Normality

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	GROUPNO	Statistic	df	Sig.	Statistic	df	Sig.
PRE-TEST	EXPERIMENTAL	,177	18	,142	,919	18	,122
	CONTROL	,200	10	,200*	,939	10	,540
POST-TEST	EXPERIMENTAL	,158	18	,200*	,948	18	,399
	CONTROL	,158	10	,200*	,919	10	,347
PRE-TEST LISTENING SECTION	EXPERIMENTAL	,213	18	,031	,867	18	**,016**
	CONTROL	,340	10	,002	,696	10	**,001**
POST-TEST LISTENING SECTION	EXPERIMENTAL	,254	18	,003	,833	18	**,005**
	CONTROL	,291	10	,016	,848	10	,054
PRE-TEST WRITING SECTION	EXPERIMENTAL	,205	18	,043	,870	18	**,018**
	CONTROL	,235	10	,125	,948	10	,641
POST-TEST WRITING SECTION	EXPERIMENTAL	,132	18	,200*	,935	18	,239
	CONTROL	,159	10	,200*	,940	10	,556
	EXPERIMENTAL	,157	18	,200*	,927	18	,174

PRE-TEST READING SECTION	CONTROL	,217	10	,200*	,843	10	**,047**
POST-TEST READING SECTION	EXPERIMENTAL	,149	18	,200*	,947	18	,377
	CONTROL	,197	10	,200*	,929	10	,439
PRE-TEST PRONUNCIATION SECTION	EXPERIMENTAL	,178	18	,136	,939	18	,283
	CONTROL	,155	10	,200*	,969	10	,886
POST-TEST PRONUNCIATION SECTION	EXPERIMENTAL	,249	18	,004	,799	18	**,001**
	CONTROL	,281	10	,025	,771	10	**,006**

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Due to the fact that normality assumption is proved for the most sections of the tests and especially homogeneity of variations is proved for all the groups, independent group t-test was conducted to examine the difference between the experimental and control groups and paired t-test was conducted to examine the difference between pre-test and post-test results.

The qualitative data obtained from the interviews was analysed by the researcher. The content analysis is used in this part. Participants' responses were categorized according to the key words and common themes. Hence, the responses were commented and a general result was obtained.

CHAPTER 4

RESULTS AND DISCUSSION

In this chapter, there is the data obtained from the participants and the results from the data. Descriptive statistics results related to the participants, the range of the data from pre- test and post-test are explained and discussed.

Quantitative Data

In this part, the experimental and control groups' scores are examined and discussed in terms of the research question 1. The pre-test and post test results are scrutinized in detail in order to find out the answer for the research question below. For this aim, the whole test scores and the scores obtained from the sub-parts of the tests are compared and contrasted to reveal whether there is a significant difference between the experimental group's scores and the control group's scores.

1) Are there any significant differences in vocabulary knowledge of the experimental group using MAVA and the control group using vocabulary extension worksheets?

1.a) Are there any significant differences between the scores of experimental and control groups from the pre-test and post-test?

When the table 6 is examined, The Levene's Test for equality of variances shows that p value is found as 0,768 for pre-test scores. It could be said that there is not a significant difference between the pre-test scores of experimental group and control group before the experiment started. P value for the post test is found as 0,890 and H_1 hypothesis is rejected because this value is above 0, 05. Consequently, it is concluded that there is not a significant difference between the post-test scores of the both groups after the experiment.

Table 6

Analysis of the Whole Tests' Results

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PRE-TEST	Equal variances assumed	1,730	,200	,298	26	**,768**	2,06111	6,90664	-12,13570	16,25792
	Equal variances not assumed			,326	23,733	,747	2,06111	6,32227	-10,99519	15,11741
POST-TEST	Equal variances assumed	,197	,661	,140	26	**,890**	1,04444	7,46664	-14,30346	16,39235
	Equal variances not assumed			,132	15,876	,897	1,04444	7,90361	-15,72108	17,80997

1.b) Are there any significant differences between experimental and control groups' scores of the receptive oral part in the pre-test and post-test?

When the table 7 is examined, p value is found as 0,580 for pre-test receptive oral part scores. It could be said that there is not a significant difference between the pre-test listening section scores of experimental group and control group. P value for the post-test receptive oral part is found as 0,154 and H_1 hypothesis is rejected because this value is above 0, 05. Consequently, it is concluded that there is not a significant difference between the post-test receptive oral part scores of the both groups.

Table 7

Analysis of the Receptive Oral Part Results of the Tests

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PRE-TEST RECEPTIVE ORAL PART	Equal variances assumed	,826	,372	-,560	26	**,580**	-1,30556	2,33022	-6,09538	3,48427
	Equal variances not assumed			-,600	22,641	,555	-1,30556	2,17613	-5,81116	3,20005
POST-TEST RECEPTIVE ORAL PART	Equal variances assumed	,142	,710	1,468	26	**,154**	2,77778	1,89247	-1,11225	6,66780
	Equal variances not assumed			1,440	17,702	,167	2,77778	1,92898	-1,27974	6,83530

1.c) Are there any significant differences between experimental and control groups' scores of the productive written part in the pre-test and post-test?

When the table 8 is examined, p value is found as 0,185 for pre-test productive written part scores. It could be said that there is not a significant difference between the pre-test productive written part scores of experimental group and control group. P value for the post-test productive written part is found as 0,339 and H_1 hypothesis is rejected because this value is above 0, 05. Consequently, it is concluded that there is not a significant difference between the post-test productive written part scores of the both groups.

Table 8

Analysis of the Productive Written Part Results of the Tests

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PRE-TEST PRODUCTIVE WRITTEN PART	Equal variances assumed	3,759	,063	1,361	26	**,185**	3,01111	2,21316	-1,53810	7,56032
	Equal variances not assumed			1,537	25,226	,137	3,01111	1,95942	-1,02256	7,04478
POST-TESTPRODUCTIVE WRITTEN PART	Equal variances assumed	,216	,646	,973	26	**,339**	2,36667	2,43140	-2,63115	7,36448
	Equal variances not assumed			,936	16,696	,363	2,36667	2,52875	-2,97593	7,70927

1.d) Are there any significant differences between experimental and control groups' scores of the receptive written parts in the pre-test and post-test?

When the table 9 is examined, p value is found as 0,825 for pre-test receptive written part scores. It could be said that there is not a significant difference between the pre-test receptive written part scores of experimental group and control group. P value for the post-test receptive written part is found as 0,869 and H_1 hypothesis is rejected because this value is above 0, 05. Consequently, it is concluded that there is not a significant difference between the post-test receptive written part scores of the both groups.

Table 9

Analysis of the Receptive Written Part Results of the Tests

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PRE-TEST RECEPTIVE WRITTEN	Equal variances assumed	1,943	,175	,224	26	**,825**	,53333	2,38105	-4,36099	5,42765
	Equal variances not assumed			,246	24,040	,808	,53333	2,16647	-3,93764	5,00431
POST-TEST RECEPTIVE WRITTEN	Equal variances assumed	,029	,865	,167	26	**,869**	,38889	2,33112	-4,40281	5,18058
	Equal variances not assumed			,165	18,027	,871	,38889	2,36137	-4,57164	5,34942

1.e) Are there any significant differences between experimental and control groups' scores of the productive oral parts in the pre-test and post-test?

When the table 10 is examined, p value is found as 0,939 for pre-test productive oral part scores. It could be said that there is not a significant difference between the pre-test productive oral part scores of experimental group and control group. P value for the post-test productive oral part is found as 0,186 and H_1 hypothesis is rejected because this value is above 0, 05. Consequently, it is concluded that there is not a significant difference between the post-test productive oral part scores of the both groups.

Table 10

Analysis of the Productive Oral Part Results of the Tests

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PRE-TEST PRODUCTIVE ORAL	Equal variances assumed	,016	,900	-,078	26	**,939**	-,17778	2,29130	-4,88762	4,53206
	Equal variances not assumed			-,076	17,830	,940	-,17778	2,32974	-5,07572	4,72016
POST-TEST PRODUCTIVE ORAL	Equal variances assumed	,514	,480	-1,359	26	**,186**	-4,48889	3,30362	-11,27957	2,30179
	Equal variances not assumed			-1,367	19,059	,187	-4,48889	3,28332	-11,35952	2,38174

1. f) Are there any significant differences between experimental group's scores obtained from the whole and sub-parts of the pre-test and post-test?

When the table 11 is examined, it is observed that there is a significant difference between the scores of receptive oral and receptive written sections in pre-test and post-test because p value for receptive oral part is 0,046 and for receptive written part it is 0,002. What's more both values are below 0, 05. For this reason, H_0 hypothesis is rejected and H_1 hypothesis is accepted. Moreover, experimental group scores in receptive oral part increase 3,33 on average. Therefore, MAVA could be said to be effective on improving listening skill. Experimental group scores in receptive written part increase 4,56 on average. Thus, MAVA has a positive effect on improving reading skill, too.

Table 11

Analysis of the Experimental Group Scores from Pre-test and Post test

Paired Samples Test

GROUP NO			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
EXPERIMENTAL GROUP	Pair 1	PRE-TEST POST-TEST	-8,33333	17,08026	4,02586	-16,82715	,16048	-2,070	17	,054
	Pair 2	PRE-TEST RECEPTIVE ORAL POST-TEST RECEPTIVE ORAL	-3,33333	6,58653	1,55246	-6,60874	-,05793	-2,147	17	**,046**
	Pair 3	PRE-TEST PRODUCTIVE WRITTEN POST-TEST PRODUCTIVE WRITTEN	-1,55556	4,52733	1,06710	-3,80694	,69583	-1,458	17	,163
	Pair 4	PRE-TEST RECEPTIVE WRITTEN POST-TEST RECEPTIVE WRITTEN	-4,55556	5,34924	1,26083	-7,21567	-1,89544	-3,613	17	**,002**
	Pair 5	PRE-TEST PRODUCTIVE ORAL POST-TEST PRODUCTIVE ORAL	1,11111	9,48614	2,23591	-3,60624	5,82846	,497	17	,626

1.g) Is there any significant difference between control group's scores acquired from the whole and sub-parts of the pre-test and post-test?

According to the table, it is observed that there is a significant difference between the scores of receptive written part in pre-test and post-test for control group because p value for receptive written part is 0,019 and this value is below 0,05. For this reason, H_0 hypothesis is rejected and H_1 hypothesis is accepted. Moreover, control group scores from the receptive written part increases 4,70 on average. Thus, traditional teaching and worksheet distribution as assignment are effective on improving reading skill.

Table 12

Analysis of the Control Group Scores from Pre-test and Post test

Paired Samples Test

GRUPNO			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
CONTROL GROUP	Pair 1	PRE-TEST POST-TEST	-9,35000	15,95140	5,04428	-20,76095	2,06095	-1,854	9	,097
	Pair 2	PRE-TEST RECEPTIVE ORAL POST-TEST RECEPTIVE ORAL	,75000	4,72141	1,49304	-2,62749	4,12749	,502	9	,627
	Pair 3	PRE-TEST PRODUCTIVE WRITTEN POST-TEST PRODUCTIVE WRITTEN	-2,20000	4,61399	1,45907	-5,50065	1,10065	-1,508	9	,166
	Pair 4	PRE-TEST RECEPTIVE WRITTEN POST-TEST RECEPTIVE WRITTEN	-4,70000	5,22919	1,65362	-8,44074	-,95926	-2,842	9	**,019**
	Pair 5	PRE-TEST PRODUCTIVE ORAL POST-TEST PRODUCTIVE ORAL	-3,20000	10,11929	3,20000	-10,43890	4,03890	-1,000	9	,343

Qualitative Data

The user's own evaluation of the program is another important source of qualitative data regarding the efficacy of the program (Ma and Kelly 2006). This part includes the data acquired from the interviews with the participants of the study. For this data, two interview forms were prepared for experimental group and control group. The first interview form had twelve questions related to MAVA and the second contains eight questions related to vocabulary extension worksheets. The researcher interviewed seven participants from experimental group and four participants from control group and recorded their answers via a voice record machine. Then, these interviews were transcribed by the researcher and content analysis was used to analyse the data. The data was coded under three themes and interpreted by the researcher. The data obtained from the interviews with the students using MAVA is analysed by the researcher in order to answer the second research question below:

2) What are the attitudes and opinions of the students related to the mobile assisted vocabulary application and the vocabulary worksheets for vocabulary development?

With the aim of answering the second research question, the researcher consider defining two sub heading under qualitative data. These are data from the interviews related to MAVA and data from the interviews related to vocabulary worksheets.

Data from the Interviews Related to MAVA

In order to shed light on the issue about the attitudes and perceptions related to mobile vocabulary learning, there are numerous studies have been conducted. In Hu's study (2011), the results show that learning new vocabulary items via SMSs sent once a day is quite acceptable by part time adult learners. "They can take advantage of fragmented time and favour vocabulary learning via mobile phones due to the convenience facilitated by the portability and accessibility of the mobile phones." (Hu, 2011)

Face to face interviews conducted for qualitative data were recorded and transcribed, then the data were coded. After coding, the qualitative data were categorized into three sections. These sections are the data related to the experiences of the participant with the MAVA, opinions of the participants related to the efficiency of the MAVA and problems and suggestions related to the MAVA

Experiences of the Participants using MAVA

Participants informed that they had used the MAVA very often at the beginning but, then, they could not use it very often because of their studies at their own departments and the problems related to their own technological devices. These statements below support the situation.

"I had used it very often at the very beginning. Now I do not use so often because my laptop is broken."

"I tried to do every week but the last several weeks... during the midterm exams, I cannot do but I try to use the app whenever I find opportunity."

"After you had given us the code for entrance, I used it very often almost every day. However, after that, when the lessons at the department got more difficult and I had to study them more, I have never used for a month."

Participants expressed that they could not do the activities regularly with this statement. "I completed the parts, I mean, one or two groups even though I could not complete the whole unit." The participant who did the activities regularly emphasizes that doing the activities before the lesson is more effective than doing them after the lesson with these statements "yes but I thought that I made a mistake there. I noticed that it could be better to have to do these (activities) before we start the unit not after the unit got finished. Due to the fact that, the same words were presented during the lessons. ... . Thus, I thought that it was quite effective that the same words were presented during the lessons."

Although participants stated that they use MAVA generally at their homes or dormitories, some of them use it during the break time at work or at school and on the bus. The possibility to use MAVA via smart phones online provided the participants to spend their free time more efficient every time and everywhere and the accessibility of the MAVA makes learning vocabulary more effective.

Opinions of the Participants in Experimental Group related to the Efficiency of MAVA

Participants find the MAVA very efficient. These statements from the participants support that "very efficient because the words are memorable for me after I study on the application." "Well, for me it is very good. Well, if it is done regularly, its efficiency can be more." "Certainly I thought it is efficient."

Due to the fact that the MAVA contains eight different kinds of activities, the answers, related to which activity is loved most, are variable. Participants like mostly the activities in which they produce correct answer on their own. Therefore, all writing activities and pronunciation activity are liked most. When the question, which activity you like most, was asked, variable answers were given. These are some answers below:

“More correctly it defines word. We find which word it is by listening to the options. I loved it most but I do not know why. (Read and find by listening activity)”

“For example, you listen to (the word) you write there accordingly. You write there by choosing the letters. (Listen and write activity)”

“My problem is saying I mean pronunciation, word pronunciation. Therefore, I like pronunciation part. (Look and pronounce activity)”

“Writing activity, the writing activity in which no letters are given only the photo is given.” (Look and write activity)

The answers for the question which activity do you think is the most efficient were very variable. “For example listening is quite useful. ... Because for example I cannot sometimes hear or catch (what I listen to) when I am in class. I start to understand (what I listen to) fast with it (listening activity on application). Participants think that the activities in which they can practice listening out of the classroom very efficient. It is obvious that such kinds of listening activities are quite efficient for the situations where the lessons time is not enough or the students have variable levels related to some skills of the language, such as listening and speaking. “By listening, I mean this... there is a statement. In that (activity), by listening the words which are not written but the words are only pronounced, this activity.” (Read and find by listening the options activity). This statement from a participant support that the activities containing listening are thought to be more effective again. Another statement which supports that is just like: “the very first teaching part and (the activity in which) the application pronounce and we write” Participants stated that the activity types which they produce the correct answers on their own are more efficient than the activities which include the correct answer as options. “Writing and speaking because in speaking part you have to look at the photo and remember what it is. You have to know.” said one participant.

Participants agree that the immediate feedback provided by the application is quite efficient. They explain the efficacy of the immediate feedback by giving examples from their previous experiences. The statements from the participants are below:

"For me, it is beneficial because some (web) sites generally … (provide) this at the end. Let's say, you did some questions correct and some others wrong … however, generally I do not notice my right and wrong answers because I do not know which answers are correct and which ones are wrong."

"Of course it is a good thing. It is better to learn immediately that you made mistake. If the assessment is given last, it is quite boring. To see a lot of mistakes… Immediate feedback is better."

"Certainly, according to the immediate feedback, I search and learn the correct answer."

According to the answers of the participants, they stated that they liked more the activities they found difficult because they thought that these activities were more challenging for them. They explained that they liked the activities where they had to write the correct answers more than the activities where they recognized the correct answers from given options. It is quite surprising to get the same answer for the question; which activity is the most difficult for you. They claimed that they had difficulty in pronunciation activity. There are two reasons for this situation. The first reason is that mispronunciation caused by the situation where the learners are all at A2 level; another reason is some technical problems happening while the learners were doing this part. When the technical problems are examined, there are some assumptions that the device could not get the voice of the student because of the device or the web browser or the noisy environment where the students pronounce the word. Statements from the participants related to these problems are below:

"(I had difficulties) in pronunciation part. The application sometimes gets what I said and sometimes not. For example, one word could be in two different activities. In one of the activity the device gets the voice but in another it does not."

"Pronunciation. Maybe the device does not get the voice. It occurs because of the phone or because of me. This was a big problem. When I pronounced the word correctly the problem occurred for instance."

Problems and Suggestions related to MAVA

Participants find the MAVA beneficial as a whole. The main problem related to MAVA is concluded as generally the situation where the device cannot get the sound in pronunciation part and sometimes the irrelevance between the photo and the word. Except from this, when

the question, what other opinions they have in order to improve the application is asked, there are several answers below:

“It could be a little shortened for instance. There are eight words (in the group) and there are sixty activities. It takes long time. It could be more effective if it takes shorter time.” It makes longer to complete each group because there are more words in the group and eight kinds of activity.

“Now, I can give such an advice as a software expert. In order to integrate the people in the learning process, it could be better if the application gave opportunity to the users to save the words they have difficulty in learning and to revise them in certain intervals. The photos are quite good. It is good to match the photos with the words but it can be beneficial to match the words with some phrases.” This statement of the student shows that he wishes to define his needs himself and he wants to be an autonomous learner. Such an application in which the learners define the content themselves will be very effective for our education system which aims to achieve the personalized learning and autonomous learners.

Thanks to developing technology and new systems day by day, the convenience of the smart phone applications become an obvious wish wanted by the students who get accustomed to the smart phone applications. MAVA is a system which the learners use on the web, so it requires an internet connection and a web browser. Participants of this study want to be able to download the application with its all content and to use it without any connection to the net. There is a statement below from one of the participants supports this:

“I mean, it would be only as an application and we could download from google play so we do not have to get online in each time.”

Consequently, participants claim that this application need to have an activity where they can use the words in sample sentences so it could be better with the statement below:

“It would be better if there was an activity which included sample sentences and a section which had some practices.”

Data from the Interviews Related to Vocabulary Worksheets

2b) What are the attitudes and opinions of the students related to the vocabulary extension worksheets for vocabulary development?

Face to face interviews conducted for qualitative data were recorded and transcribed, then the data were coded. After coding, the qualitative data were categorized into three sections. These sections are experiences of the participants doing vocabulary extension worksheets, opinions of the participants related to the efficiency of the vocabulary extension worksheets and resources used by the participants to check their answers.

After analysing the data from the interviews related to the MAVA, it is time to have a look at the data gathered from the interviews related to the vocabulary worksheets. In order to gather the opinions and attitudes of the students related to the vocabulary worksheets, the researcher asked eight questions to four students in the control group. The interviews were recorded and transcripted. The researcher analysed the data under three headings, which are experiences of the participants, opinions of the participants and resources of the participants to check their answers. Therefore, the qualitative data is organized to answer the second research question of the study.

Experiences of the Participants in Control Group

In this part, the experiences of the participants doing vocabulary extension worksheets are investigated with three questions. These are:

1) Did you do the vocabulary extension worksheets regularly?
2) Which part of the day did you prefer doing these worksheets in, such as in the mornings or evenings?
3) Where did you generally do these worksheets?

For the first question, most participants stated that they tried to do the worksheets regularly as much as they could. One of them says “I did regularly but I did not do them on the day or the following week of the day on which the worksheets were given. Generally, when I had some free time, I did them.” The other one claimed “It is not called so regularly but I did as much as I could.”

For the second question, participants seem to prefer the evenings for doing vocabulary extension worksheets. Some of them tried to do these worksheets after the English course in order to memorize the words they have just learnt in the day meanwhile some others completed them before the next English lessons. On the other hand, some students stated “Generally in my free time. Because I study (my field subjects), during the time left from studying I did the worksheets.”

Finally, all of the participants claimed to do these worksheets at their dormitories. There is nobody to do the worksheets during their fragmented time such as on the bus or in the lesson brakes. One of the participants stated that "At dorm. Generally, when everybody sleeps and nobody talks to me I do the worksheets so that I could do them in peace."

Opinions of the Participants related to the Efficiency of the Vocabulary Extension Worksheets

All of the participants found vocabulary extension worksheets very efficient in terms of learning new vocabulary. One of the participants stated "Sure, they have benefits. ... We could add more words to our vocabulary knowledge. The words are easily memorized because the worksheets contain some visuals. The word comes to your mind at the moment you see them." The worksheets include many photos, pictures and drawings especially matching activities. Therefore, the participants claim that these visuals help them learn new vocabulary items and memorize them easily. One of the participants gave an example and emphasized that they can learn the words by the help of the worksheets because they serve them an opportunity to revise the words which are just learned. She stated "Well, for example we have just finished the unit but it is not durable without any revision but seeing those words again, it becomes more memorable."

When the question related to the most favourite part of the worksheets, they give various answers. According to the participants, it is stated that matching types of the activities, such as photo-word, or word-definition matching activities, the scrambled word activity and puzzles are mostly enjoyed by the participants. The most difficult parts according to the participants are the activities in which the learners are supposed to complete the sentences with the words in the box. It is claimed that they made extra effort to translate the sentences and choose the correct answers from the many possible words in the box above. Although some of the participants enjoyed putting letters into the correct order, some others found this unscrambled word part difficult.

Resources Used by The Participants in Control Group to Get Feedback

Most of them correct their wrong answers just checking the key given by the researcher or asking questions to their teacher to get an opinion. All of them check their answers according to the key first then they asked some of their friends who study English or they got online to translate the item into Turkish so try to understand how to do the activities correctly. One of

the participant said “I checked my answers. I have some friends who study English in my room and in another room. We exchange ideas each other and they told me which of them are wrong and explained why I did wrong.” Another participant stated “Either, I check my answers according to the answer sheets you sent us or I feel that something is wrong I looked the translation of the words one by one for hours so I did them.”

The resources they used most are course book, workbook, and online sited generally related to translation. The participants listed the resources they used while they were doing their worksheets with the statements below:

“Both the course book and the workbook… Because there is more detailed information in workbook… one more on the net translation…”

“I looked both on the net and at the course book in order for how we did before…”

“The internet I mean I generally did by searching on the net. I did translation and according to what they mean, I chose.”

“Mostly I referred to the course book and moreover I looked on the net but not dictionary.”

CHAPTER 5

CONCLUSIONS AND SUGGESTIONS

In this chapter there are conclusions related to this study, implications for pedagogy and suggestions for the future studies.

Conclusion

Golonka et al. (2014) reviews 350 studies including classroom-based technologies, individual study tools, network-based social computing, and mobile and portable devices in their study and concludes that "in spite of an abundance of publications available on the topic of technology use in foreign language learning and teaching, evidence of efficacy is limited."

The aim of this study is to investigate which vocabulary extension activities is more effective, the use of traditional vocabulary worksheets or mobile applications. The most crucial point in teaching vocabulary is the maintenance of the vocabulary items which are newly taught. For this aim, the most common out-of-class activity is vocabulary worksheets. It is vital to bring vocabulary learning to more enjoyable platforms at these times when the technology penetrates all parts of our lives. For this aim, in this study two different groups of students are assigned in two different ways. The experimental group is assigned to do the activities on MAVA while the control group is given vocabulary extension worksheets as homework. So these two groups could find a chance to study again the words they have just learnt in class.

According to the results obtained from the study, both groups have achieved in learning vocabulary. When compared the test results from pre-test and post-test of these two groups, it is seen that the achievement of vocabulary level increases for both control and experimental group. When the scores from every sub-section of the tests are investigated,

for experimental group, scores from the reading and listening sections increase significantly while for control group this significant increase happens only in reading section. The results reveal that the participants in the both groups are successful to recognize the words in written form on the other hand, it could be claimed that the experimental group shows a significant difference in recognizing words in spoken form better. The general scores of the experimental and control groups from the pre-test and post-test increases %8,3 and %9,4 in order. Considering this result, it might be said that both out-of-class activities have a positive effect on vocabulary acquisition.

It is obviously seen that there are some superior sides of MAVA compared to vocabulary worksheets when the qualitative data acquired from this study is investigated. The first benefit is that the students can practice the newly taught words on MAVA without the limitation of place. Bachore (2015) claims that this advantage of mobile-based language learning stems from the two main characteristics of mobile devices: portability and connectivity. On the other hand, the students from the control group who practice the words by doing vocabulary worksheets inform that they could do the vocabulary worksheets only at their dormitories. The students who uses the MAVA state that they could use the MAVA at their workplace and schools when they had breaks as well as at their homes and dormitories.

The second superior side of MAVA is that it provides audiovisual data to the students. While the students are using MAVA, they can both listen to the pronunciation of the vocabulary items in the teaching part and in the other activities they have the same chance many times. It proves that the experimental group scores from the listening section of the post-test has increased significantly in comparison with the listening scores of the control group from post-test.

The participants stated that it is beneficial to practice the vocabulary in both ways. Both groups claim that the activities they do during this study have benefited their vocabulary acquisition. The students who uses MAVA believe that the pronunciation and writing activities benefit most while the students using vocabulary extension worksheets find the unscrambled words activity and matching the words with their definitions type of activities very beneficial.

When the experimental group is asked the problems they faced with while they were using MAVA, they state that they have difficulty in mostly pronouncing the word correctly. The students of the experimental group also suggest that MAVA should offer the learners some

choices to shape the word lists according to their learning pace and their own interests. Consequently, they demand to define their own lists from a word bank offered by MAVA.

By the way, it causes some problems for the smart phone users that MAVA is based on the net and is only used by a web browser. Therefore, the users stated that MAVA should be transformed into a smart phone application.

Implications for Pedagogy

In today's world, lifelong learning skills are getting more crucial day by day. By the help of the recent technology, it is possible to reach any kinds of information wherever and whenever people need or want. "Mobile devices may be used for learning at home, in the classroom, in a social space, on field trips, in museums and art galleries, in work contexts or as part of everyday learning" (Kukulska-Hulme, 2006). Therefore, transforming language learning into a more virtual area is unavoidable. By the way, constructing personalized information is more convenient by using personal mobile devices such as smart phones than formal language instruction in crowded classrooms.

Through the process of designing a mobile-assisted application, it is important to consider the needs of the target participants. Ma (2006) claims that "language learning is a very idiosyncratic process that is subject to a series of learner characteristics, such as mother tongue, knowledge of other foreign languages, level of proficiency in the target language, learning difficulty, … etc.". In this respect, the present study considers the immediate needs of target participants and shapes the content accordingly. On the contrary, the participation of the students in the present study are unexpectedly low due to some other factors such as some other mandatory tasks such as their own classes and exams at their own departments, workplace tasks. Consequently, such a mobile assisted application is made available for a longer period which covers the holidays the students have more free time to be able to spare more time to use the application rather than just a term.

Considering the scores obtained by the experimental group from the sub-sections, reading and listening, it is claimed that the feature of MAVA providing audio-visual data related to target words helps students recognize the word they listen to and remember the word meaning by the help of visuals representing the target words better than the control group. Compared to the vocabulary extension worksheets, that is traditionally given paper and pen aids, it is obviously seen that mobile assisted vocabulary activities offer more multi-

sensational contents easily and help more comprehensive vocabulary knowledge such as how to pronounce a word, word recognition by listening, etc.

All in all, technology is an inseparable part of our everyday life. Using such technological advances in language learning process should be primarily priority of the educational institutions especially public ones because of the fact that they are more common and available for every citizen in Turkey and responsible for equality in education.

Suggestions for Future Studies

The limited number of participants in this study could not produce certain results to show us the real effect of MAVA on the achievement of the learners' vocabulary acquisition. It is suggested that the same study should be conducted on a larger sample.

Another suggestion is that it seems necessary to conduct the practice vocabulary on MAVA as a classroom activity. In this study, the logs kept by the application reveal that some students hardly ever use the application and the student who uses MAVA at most completes only 42% of the activities. For this reason, it might provide some more concrete data when some classroom time is spared for the students to use MAVA.

In this study, the content of MAVA is mostly designed by the researcher. It could be another study on the perception and attitude of the teachers who design the content of such an application on their own. The opinions and attitudes of the teachers could be scrutinized in another future study.

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APPENDICES

Appendix 1. Sample Parts from Vocabulary Extension Worksheets

A) Underline the correct alternatives. (underline correct alternative type)

1) He's from Warsaw. He's *Poland* / *Polish* .
2) She's German, but she lives in *Spain* / *Spanish*.
3) The beaches in *Argentina* / *Argentinian* are very beautiful.

B) Match the countries with their definitions. (matching the words with their definitions type)

1) France a) a country in East Asia consisting of four large islands, capital Tokyo
2) Egypt b) a country in southeast Europe on the Mediterranean Sea, capital Athens
3) Portugal c) a country in western Europe, capital Paris

C) Put the letters in the correct order to write object names. (reorder the letters type)

1) bomc _____
2) spaprots _____
3) yarid _____

D) Complete the sentences with the word in the box. (complete the sentences type)

chewing gum	file	gifts

1) She takes some expensive _____ on her birthday.
2) You should save your _____ on your hard disk.
3) A(n) _____ is a kind of sweet you chew but do not swallow.

E) Write the words in the box in the correct table. (word categorization)

money exchange	Malaysia	Spanish	Russian
audiobook	Korea	Brazil	present

Building	Country	Nationality	Objects

F) Complete each pair of sentences in the conversations with the same word from the box. (use the same word for both sentences for collocation)

play	read	call

1) A: Can you _____ any musical instruments?

B: No, not really. I only _____ the radio in the mornings.

2) A: I don't have time to_____ books.

B: Neither do I, but I _____ newspapers.

3) A: I want to _____ Mandy but I think she is very busy.

B: Do it now! If she is busy, she will _____ you back later.

G) Mach the halves of the verb phrases. (matching the haves for collocation)

1) check ____ e) up your room
2) tidy ____ b) books to the library
3) return ____ g) emails

H) Write the vowels and complete the jobs. (write missing letters type)

1) s_cr_t_ry
2) sh_p _ss_st_nt
3) sp_rtsm_n

I) Write the names of the jobs next to the pictures. (find the word according to the pictures)

_____ _____

J) Find the mistakes and correct the underlined words. Five of the sentences are correct. (finding mistakes type)

1) My grandmother and my sister are my grandparents.
2) My sister is my grandmother's grandson.
3) My mother's father is my granny.

K) Decide if each pair of words has a similar meaning (S) or an opposite meaning (O). (synonym antonym type)

1) happy/unhappy *O*
2) crazy/normal _____
3) awful/terrible _____

L) Underline the odd word out in each group. (odd one out type)

1)	chicken	lamb	beef	prawns
2)	beans	grapes	peas	peppers
3)	rice	pasta	cabbage	noodles

M) Complete the puzzle. (puzzle type)

DOWN

1) a seed, or the pod containing seeds, of various climbing plants, eaten as a vegetable

3) fried potatoes

5) a kind of fish

7) an oval, yellow fruit that has sour juice

8) a kind of meat

9) dirty plates, bowls and other objects that have been used for cooking or eating food

13) a crop of grain, or the seed from this crop used to make flour or feed animals

ACROSS

2) a plant with large green leaves, eaten raw in salads

4) a container for milk or juice

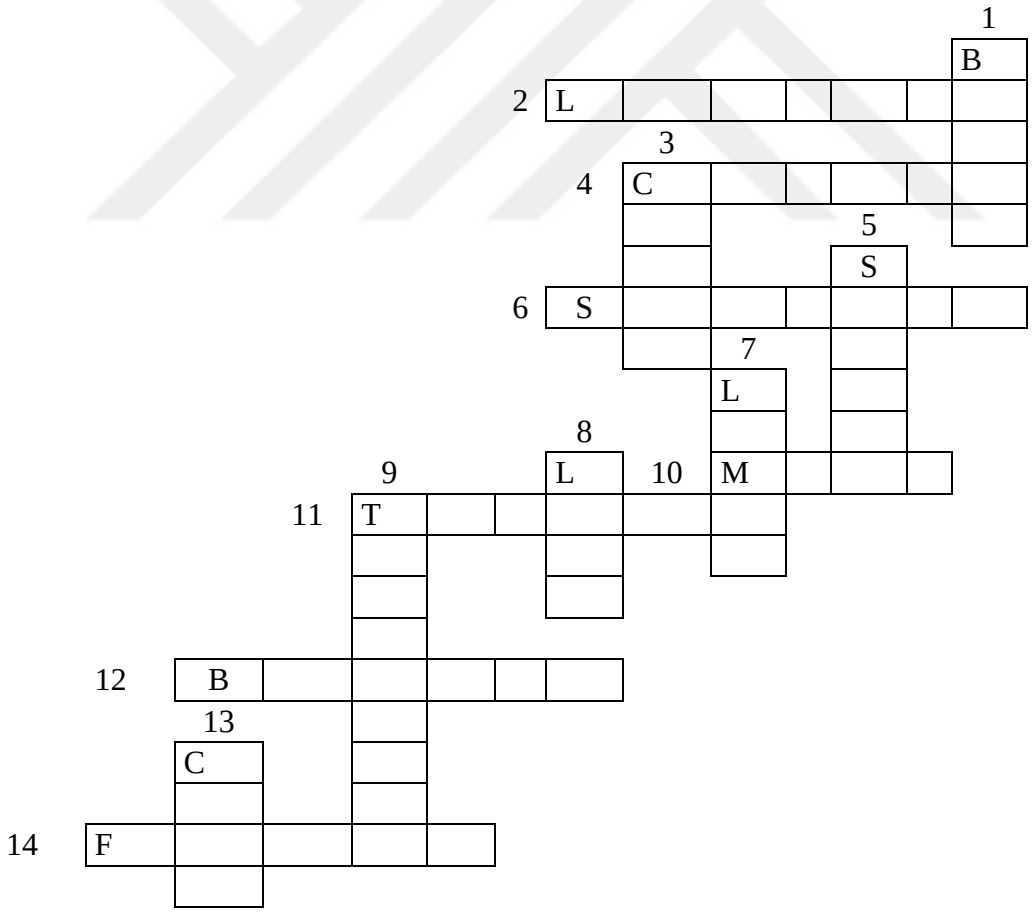
6) a dark green vegetable with leaves

10) You read this in a restaurant.

11) a red vegetable eaten in a salad

12) cooked in very hot water

14) _____ food has recently picked or prepared.



N) Choose the best answer, a), b) or c). (multiple choice type)

1) Wait _____ me at the corner.

a) for b) about c) to

2) You should listen _____the teacher.

a) to b) with c) on

3) Did you read the story _____ the underwater post office?

a) in b) to c) about

Appendix 2.1. Vocabulary Pre-test of the Study

Test 58 maddeden oluşan bir kelime testidir. Testte kelimeyi dinleme, okuma-anlama, yazma ve telaffuz alt becerilerini ölçen maddeler bulunmaktadır.

Listen to the words and circle the correct picture. (1-7. Sorularda kelimeyi dinleyip doğru resmi seçiniz.) (Herbir madde 2,5 puandır.)

Name & Surname : **Class:**

1)




a) b) c) d)

2)




a) b) c) d)

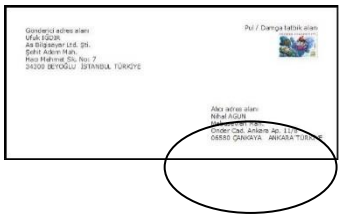
3)




a) b) c) d)

4)

a)



b)

c)

d)

5)

a)

b)

c)

d)

6)

a)

b)

c)

d)

7)

a)

b)

c)

d)

Listen to the words and circle the correct option. (8-10. Sorularda kelimeyi dinleyin ve doğru yazımı seçiniz.) (Herbir madde 2,5 puandır.)

8) a) course	b) force	c) source	d) cross
9) a) light	b) bite	c) might	d) night
10) a) scream	b) cream	c) scheme	d) crime

Listen to the words in order and write the missing letters. (11.-19. Sorularda kelimeyi dinleyip eksik harfleri tamamlayın.) (Herbir madde 2 puandır.)

11) M__ __ __ ys__ __ __

12) l__ __ __ m__ __ __ __ (2 words)

13) m __ __ __ __ __

14) F __ __ __ __ __ __ y

15) h __ __ __ t __

16) __ __ __ __ e

17) __ r__ __ __ __ e

18) __ __ __ __ y

19) __ __ r__ __

Choose the correct option according to the words. (20.- 23. Sorularda kelimeyi okuyup doğru resmi seçiniz.) (Herbir madde 1 puandır.)

20) butcher's

a)

b)

c)

d)

21) desert




a) b) c) d)

22) stairs




a) b) c) d)

23) knee




a) b) c) d)

Choose the correct options according to the pictures. (24.-27. Sorularda resme uygun seçeneği işaretleyiniz.) (Herbir madde 1 puandır.)

24)

a) cheese
b) oil
c) butter
d) cream

25)

a) collect stamps
b) draw pictures
c) collect coins
d) collect shells

26) 

a) furniture and lightening
b) toys shop
c) clothes shop
d) sports shop

27) 

a) cup
b) vase
c) jar
d) carton

Complete the sentences with the words or phrases in the box. (28.-34. Sorularda cümleleri kutu içinde verilen kelimeler ya da ifadelerle tamamlayınız.) (Herbir madde 1 puandır.)

pass	empty	difficult	Italy
terrible	thin	down	alone

28) He was tall and _____ when he was a child.
29) I saw the _____ bottle in the kitchen. Tony finished the last water.
30) The sun is going _____ and it will be dark soon.
31) When everybody went back their homes, I stayed _____ at home.
32) A: Was the exam _____ ?
B: No, it wasn't. It was really easy.
33) Tony studied much so he can _____ his exams.
34) I feel _____ when I see some bad news on TV.

Write the missing letters and complete the words or phrases according to the cues in brackets. (35.-41. Sorularda verilen ipuçlarına göre kelimeyi ya da ifadeyi tamamlayınız.) (Herbir madde 1 puandır.)

35) w__l__ __ t (a small, flat case you put money)

36) S__ __ __ l __ __ __ (a country)

37) s __ __ __ (not dangerous)

38) t__ __ __d (3rd)

39) n__ __ c__ (the daughter of your brother or sister)

40) p__ __ n__i__ __ (a painted picture that you put on a wall for people to see)

41) N__ __ __ __ __ er (the 11th month of the year)

Complete the phrases with the words in the box. (42.-46. Sorularda verilen ifadeleri kutu içerisindeki kelimelerle tamamlayınız.) (Herbir madde 1 puandır.)

money	chat	send	cross	walking

42) _____ a message

43) _____ exchange

44) _____ the road

45) _____ boots

46) _____ with

Match the words with their meanings. (47.-52. Sorularda kelimeleri anlamları ile eşleştiriniz.) (Herbir madde 1 puandır.)

unhealthy	lazy	lake	miss	careful	train

47) to feel sad because someone you love is not with you. _____

48) a large area of water surrounded by land. _____

49) not liking work and physical activity, or not making any effort to do anything ____

50) likely to make you ill. _____

51) trying very hard to avoid doing anything wrong or to avoid damaging or losing sth

52) a set of several carriages that are connected to each other and pulled along a railway line by an engine. _____

Read the words below once and pronounce them aloud one by one. (53.-58. Sorulardaki kelimeleri bir kez okuyup sesli bir şekilde tek tek telaffuz ediniz.) (Herbir madde 4 puandır.)

53) photographer

54) serious

55) beard

56) journey

57) exhibition

58) tunnel

_ End of The Pre-Test_

Appendix 2.2. Vocabulary Post-test of the Study

Test 58 maddeden oluşan bir kelime testidir. Testte kelimeyi dinleme, okuma-anlama, yazma ve telaffuz alt becerilerini ölçen maddeler bulunmaktadır.

Listen to the words and circle the correct picture. (1-7. Sorularda kelimeyi dinleyip doğru resmi seçiniz.) (Herbir madde 2,5 puandır.)

Name & Surname: **Class:**

1)


a)


b)

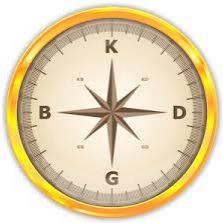

c)


d)

2)


a)


b)



c)


d)

3)


a)

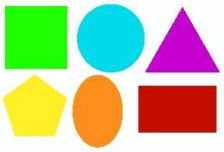

b)


c)


d)

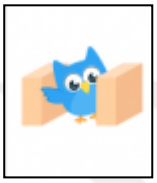
4)






a) b) c) d)

5)




a) b) c) d)

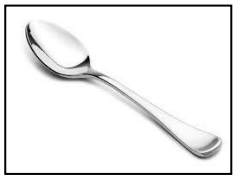
6)




a) b) c) d)

7)



a) b) c) d)

Listen to the words and circle the correct option. (8-10. Sorularda kelimeyi dinleyin ve doğru yazımı seçiniz.) (Herbir madde 2,5 puandır.)

8)	a) screen	b) scream	c) scene	d) seen
9)	a) sing	b) sink	c) think	d) sting
10)	a) junk	b) climb	c) camp	d) jump

Listen to the words in order and write the missing letters. (11.-19. Sorularda kelimeyi dinleyip eksik harfleri tamamlayın.) (Herbir madde 2 puandır.)

11) __ pst__ __ rs

12) s__ rpr __ s __ d

13) r __ __ st

14) n __ __ sy

15) f r __ dg __

16) f __sh __ __n

17) l__ m__n __d __

18) j__ w __ ll __ ry

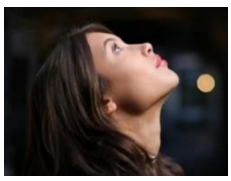
19) l__ s __ w__ __ ght (2 words)

Choose the correct option according to the words. (20.- 23. Sorularda kelimeyi okuyup doğru resmi seçiniz.) (Herbir madde 1 puandır.)

20) look after


a)


b)


c)


d)

21) cloudy


a)


b)


c)


d)

22) shirt


a)


b)


c)


d)

23) helmet


a)


b)


c)


d)

Choose the correct options according to the pictures. (24.-27. Sorularda resme uygun seçeneği işaretleyiniz.) (Herbir madde 1 puandır.)

24)

a) borrow money
b) collect coins
c) take photos
d) collect stamps

25)

a) get angry
b) feel surprised
c) worry about
d) be cold

26) 

a) earache
b) cold
c) headache
d) sore throat

27) 

a) build home
b) tidy home
c) clean home
d) move home

Complete the sentences with the words or phrases in the box. (28.-34. Sorularda cümleleri kutu içinde verilen kelimeler ya da ifadelerle tamamlayınız.) (Herbir madde 1 puandır.)

neck	cereal	crowded	fail an exam
head	bring back	get off	

28) The main street is usually very _____ so you can't see any empty cafe on it.
29) In the morning I usually have _____ with milk for breakfast.
30) You have to repeat semester when you _____ at university.
31) Don't forget to _____ the books to the library.
32) You have to ask the _____ for permission at school.
33) You should _____ the bus at the next stop.
34) She wore a gold chain around her _____.

Write the missing letters and complete the words or phrases according to the cues in brackets. (35.-41. Sorularda verilen ipuçlarına göre kelimeyi ya da ifadeyi tamamlayınız.) (Herbir madde 1 puandır.)

35) G_ _ _ _ e (a country)
36) J_ _ _ _ _ _ e (a nationality)
37) C _ _ _ _ _ _ n (a nationality)
38) r_ _ _ p _ _ _ n_ _ t (a job)
39) _ o_ _ _ t (a large area of trees)
40) e_ p_ _ _ _ v_ (cost a lot)
41) c_ _ n _r (where lines meet)

Complete the phrases with the words in the box. (42.-46. Sorularda verilen ifadeleri kutu içerisindeki kelimelerle tamamlayınız.) (Herbir madde 1 puandır.)

sun	be	borrow	police	start

42) _____in trouble
43) _____ a business
44) _____ station
45) _____ money
46) _____ cream

Match the words with their meanings. (47.-52. Sorularda kelimeleri anlamları ile eşleştiriniz.) (Herbir madde 1 puandır.)

afraid	trainers	fall	try on	follow	perfect

47) to move behind someone or something and go where they go _____

48) without fault, or as good as possible _____

49) to put on a piece of clothing to discover if it fits you or if you like _____

50) a type of light comfortable shoe that is suitable for playing sport_____

51) frightened _____

52) to move down towards the ground, sometimes by accident _____

Read the words below once and pronounce them aloud one by one. (53.-58. Sorulardaki kelimeleri bir kez okuyup sesli bir şekilde tek tek telaffuz ediniz.) (Herbir madde 4 puandır.)

53) chemist

54) thirsty

55) inconvenient

56) exhibition

57) trouble

58) bridge

_ End of The Post-Test_

Appendix 3.1. Interview Questions for Participants in Experimental Group

1) Do you think that the application prepared for vocabulary learning is beneficial?
2) How often did you use it (MAVA)?
3) Did you do the activities regularly after the end of each unit?
4) Did you face with any problems while using MAVA?
5) Have you ever used such an application for vocabulary learning?
6) Where and when did you generally use MAVA?
7) Which activities did you enjoy doing most?
8) Which activities did you have difficulty doing?
9) Which activities do you think are the most beneficial in learning vocabulary?
10) Do you think that the instant feedback supplied by MAVA is useful?
11) What do you think about this application in general?
12) What recommendations do you make for the improvement of MAVA?

Deney Grubundaki Öğrencilerin Soruları

1) Kelime için hazırlanan yazılımın faydalı olduğunu düşünüyor musun?
2) Bu yazılımı ne sıklıkta kullandın?
3) Her ünite bitiminde düzenli olarak etkinlikleri yaptın mı?
4) Yazılımı kullanırken herhangi bir problemle karşılaştın mı?
5) Daha önce kelime öğrenimi için bu tarz bir yazılım kullandın mı?
6) Genelde yazılımı ne zaman, nerede kullandın? (evde, okulda, yolculukta, vb.)
7) En çok hangi etkinliği beğendin (yapmaktan hoşlandın)?
8) En çok hangi etkinliği yapmakta zorlandın?
9) Hangi etkinliğin kelimeyi öğrenmede en faydalı olduğunu düşünüyorsun?
10) Yazılımın sağladığı anında geri bildirimlerin faydalı olduğunu düşünüyor musun?
11) Genel olarak yazılımı nasıl buldun?
12) Bu yazılımın daha iyi olabilmesi için önerilerin nelerdir?

Appendix 3.2. Interview Questions for Participants in Control Group

1) Did you do the vocabulary worksheets given after the end of each unit regularly?

2) Do you think that these vocabulary worksheets are useful for learning the vocabulary in the related units?

3) What types of items did you most enjoy doing? (matching the word with definitions, unscrambled words, etc.)

4) What types of items did you have difficulty doing?

5) Which parts of the day did you do the vocabulary worksheets?

6) Where did you usually complete these vocabulary worksheets?

7) Did you check your answers? How did you correct your wrong answers?

8) What resources did you use while doing the vocabulary worksheets? (dictionary, coursebook, etc.)

Kontrol Grubundaki Öğrencilerin Soruları

1) Her ünite sonunda dağıtılan kelime çalışma kağıtlarını düzenli olarak yaptın mı?

2) Bu çalışma kağıtlarının ünitedeki kelimeleri öğrenmede faydalı olduğunu düşünüyor musun?

3) En çok hangi tip soruların olduğu bölümleri severek yaptın?

4) En çok hangi tip soruların olduğu bölümlerde zorlandın?

5) Çalışma kağıtlarını hangi zaman diliminde yaptın, yapabildin?

6) Genelde bu çalışma kağıtlarını nerede tamamladın? (evde, okulda, yolculukta, vb.)

7) Çalışma kağıtlarının cevaplarını kontrol ettin mi, yanlışlarını nasıl düzelttin?

8) Çalışma kağıtlarını yaparken hangi kaynaklara başvurdun? (sözlük, ders kitabı, vb)

Appendix 4. Target vocabulary list

above	ask	become
accountant	ask sb about	bed
across	attractive	beef
across	audiobook	behind
actor	August	believe
actress	aunt	believe in sb
add	Australia	between
adult	Australian	big brother
afraid	autumn/fall	bike
alone	awful	blind
amazing	back	blonde
American	backache	boat
angry	bag	boil
animated	bake	boiled
answer the phone	baker's	book a table
app	balcony	bookshelf
April	bald	boring
Argentina	balloon	borrow money
Argentinian	bathroom	boss
arm	battery	bother sb
armchair	be in a hurry	bottle
arrive	be in trouble	brake down
art gallery	beans	Brazil
artist	beard	Brazilian

break
break
bridge
bring back
British
broccoli
brother
brush
building
bus
bus station
bus stop
businessman
businesswoman
busy
butcher's
cabbage
cafe
call
call back
camel
camp
can
Canada
Canadian
can't wait
car park
careful
carton
catch a cold
cereal
chain
chair
change
chat online
chat with
cheap
check emails
chef
chewing gum
chicken
child
China
Chinese
Christmas Day
cleaner
climb a mountain
climb the Eiffel tower
clothes shop
cloudy
clown
coat
coin
cold
collect
collect stamps
comb
come
come back
come in
come round
comedy
comfortable
concert
contact
cook
corn
corner
cough
cousin
cover
crash
crazy
crazy about
credit card
cross the road
crossroads
crowded

cup
curly hair
cut
cyclist
dance performance
dancer
dangerous
dark
daughter
December
dentist
desert
diary
dictionary
difficult
digital camera
dining room
dish
do
do a bungee jump
do homework
do nothing
do sport
do sth different
do the housework
down
downstairs
drama
drawing
dream
dress
dressed
drink
driving licence
drop litter
dry
dry cleaner's
dry hair
ear
earache
earn
earphones
easy
Egypt
Egyptian
eighth
eightieth
elbow
electronics shop
eleventh
e-mail
empty
empty
end
engineer
England
English
enter
envelop
exchange phone numbers
exhibition
expensive
eye
face
fail an exam
fair hair
fall in love
fall off
fantastic
farmer
fast
fast
February
ferry
fifth
fiftieth
file
fill

fill in/out
film
find out
finger
first
fit
fly
foggy
follow
foot
football match
footballer
forest
fourth
fourtieth
France
French
fresh
fridge
fried
friendly
funny
garage
garlic
German
Germany
get back
get cold
get hungry
get lost
get married
get off
get on
get stung
get sunburnt
get text message
get thirsty
get tired
get warm
get wet
gift
give a gift
give a party
give sb a call
give sth back
glass
glasses
go
go for a drink
go for a walk
go in
go jogging
go shopping
go to the gym
go to the toilet
go to university
good-looking
grandchild
granddad
granddaughter
grandfather
grandma
grandmother
grandpa
grandparent
grandson
granny
grapes
great
Greece
Greek
greengrocer's
grill
grilled
grow
grow up together
guidebook
hairbrush

hairdresser
hairdresser's
hall
Halloween
hand
happy
have a bath
have a break
have a look
have a picnic
have a rest
have a shower
have a temperature
have breakfast
have time off
head
headache
healthy
helmet
hill
hit
hitchhiker
home
horror
hot
hot chocolate
hotel
housewife
hundredth
hurry
hurry up
hurt
Independence Day
India
Indian
International Women's Day
Ireland
Irish
Italian
Italy
identity card
in
in front of
injury
intelligent
interested
interesting
internet cafe
into
January
Japan
Japanese
jar
jeans
journey
July
jump
jumper
June
keep sth in/on
key
kind
kite
knee
Korea
Korean
lake
lamb
laptop
laugh at
lawyer
lazy
leave
leave a message
leg
lemon
lend money

letter
lettuce
library
lie
lie down
lie in the sun
lift sth
listen to sb
living room
look after
look both ways
lorry
lost
lucky
mad
magazine
make-up
Malaysia
Malaysian
manager
map
March
market
married
May
mechanic
medium build
meet your husband wife
melon
memorable
Mexican
Mexico
mineral water
miss
miss family
mix
mobile signal
money exchange
mosque
motorbike
mountain
moustache
mouth
move
move home
MP3 player
mug
multi-task
musical
neck
nephew
New Year's Day
newsagent's
newspaper
next to
niece
nineth
ninetieth
noisy
normal
nose
November
nurse
October
oil
Oman
Omani
on
onion
open
out of
over
overweight
packet
painkiller
painter
painting
park

park
pass an exam
passenger
passport
pasta
pear
peas
peppers
perfect
personal assistant
Peru
Peruvian
petrol
petrol station
pharmacy
photograph
photographer
pick up
pick sth up
pilot
plane
play
playing cards
pleased to meet you
pocket
Poland
police officer
police station
policeman
policewoman
Polish
polite
politician
poor
popular
Portugal
Portuguese
post
post office
postcard
prepare
present
pretty
pull sth
purse
push sth
put
put make-up
put on
put some drops
quick
quiet
read
read sth about sth
receptionist
red hair
rent
repair
return
ride a motorbike
ride an elephant
ring
ring me back
river
roadside hotel
roast
romantic
roof
runner
runny nose
Russia
Russian
safe
salesperson
salmon
sandals
sandwich bar
scary

sci-fi
scooter
Scotland
Scottish
seasonal
second
secretary
self-catering apartment
sell for/at
September
serious
serve
seventh
seventieth
shame
shampoo
share
ship
shirt
shop assistant
shorts
shout at sb
shower
shy
singer
single
sit down
sixth
sixtieth
skate
skateboard
slim
slow
slow
socks
sofa
soft drinks
son
sore throat
souvenir shop
Spain
Spanish
speak to
spell
spend money
spend time with sb
sports centre
sports shop
sportsman
sportswoman
spring
square
staff
stairs
stamp
stand
star
start
start
start a business
start a conversation
start a family
start new job
statue
stay
stay in
stay with friends
stomachache
stop
straight hair
strawberry
street
stress level
strong
stupid
suit
summer
sun cream

sunglasses
sunny
surprised
sweater
sweet
table
take
take a break
take a message
take a photo of
take a tablet
take off
take your name
talk to
talkative
tall
telephone
temple
tenth
terrible
text
Thai
Thailand
the dishes
the front
the Pyramids
the UK
the USA
theatre
thin
think about
third
thirsty
thirtieth
through
thumb
tidy
tie
tissue
toe
toothbrush
top
tour
tour guide
towards
toy
traffic lights
train
train station
tram
trousers
truck
try on
tunnel
Turkey
Turkish
turn
turn off
turn off the phone
turn on
twentieth
twenty-first
twenty-second
twenty-third
umbrella
uncle
uncomfortable
under
understand sb
unfriendly
unhappy
unhealthy
unkind
unusual
up
upset
Valentine's Day
van

vegetarian
Vietnam
Vietnamese
village
wait for sb
wallet
wardrobe
warm
wash up
washbasin
watch
watch the sun rise
wet
windy
winter
wonderful
work
work for a company
worker
worried
worry about
write to sb
yoghurt