

**THE IMPACT OF QUIZLET ON PERFORMANCE AND AUTONOMY IN
VOCABULARY LEARNING OF TURKISH EFL LEARNERS**

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MAY 2017

**THE IMPACT OF QUIZLET ON PERFORMANCE AND AUTONOMY IN
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**A THESIS SUBMITTED TO THE
GRADUATE SCHOOL OF EDUCATIONAL SCIENCES
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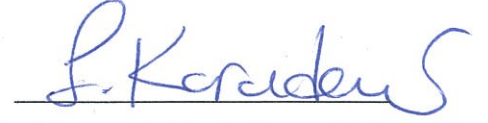
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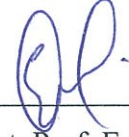
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ABSTRACT

THE IMPACT OF QUIZLET ON PERFORMANCE AND AUTONOMY IN VOCABULARY LEARNING OF TURKISH EFL LEARNERS

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The major purpose of this thesis is to investigate the impact of a mobile flashcards application, Quizlet, on students' performance and autonomy in vocabulary learning. The study also attempts to explore the perceptions of students and their instructor of incorporating this application into the teaching, learning and practicing of target vocabulary in English preparatory classes. To achieve this purpose, a nonrandomized quasi-experimental research design was adopted. The participants were recruited from two intact classes of Turkish EFL students enrolled in a language preparatory program at a foundation (non-profit, private) university in Istanbul, Turkey. The data was collected through pre- and post- tests, an online survey and reflective journal. The findings revealed that Quizlet had a positive impact on students' performance as well as their autonomy in vocabulary learning. The overall perceptions of participating students and teacher were also positive. Based on these findings, the study provides practical implications for integrating mobile learning into English language preparatory programs.

Keywords: Vocabulary Learning, Student Performance, MALL, Quizlet, Learner Autonomy.

ÖZ

QUIZLET'İN İNGİLİZCE ÖĞRENEN TÜRK ÖĞRENCİLERİN KELİME ÖĞRENME PERFORMANSI VE ÖĞRENEN ÖZERKLİĞİ ÜZERİNDEKİ ETKİLERİNİN İNCELENMESİ

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Bu çalışmanın temel hedefi mobil tabanlı kelime öğrenme uygulamalarından Quizlet'in, öğrencilerin kelime öğrenmedeki performansı ve özerklikleri üzerindeki etkisini araştırmaktır. Öğrencilerin İngilizce kelimeleri öğrenmek ve öğretmenlerinin özellikle üniversitelerin İngilizce hazırlık sınıflarında öğretim yöntemi olarak bu uygulamayı kullanmak hakkındaki algılarının incelenmesi de hedeflenmektedir. Bu amaçlar doğrultusunda rastgellenmiş olmayan yarı deneysel bir araştırma yapılmıştır. Veriler; deney öncesi ve sonrası testler, Quizlet anketi ve öğretmen tarafından tutulan yansıtıcı günlüklerden toplanmıştır. Araştırma bulguları, Quizlet'in öğrencilerin kelime öğrenmedeki performansı ve özerklikleri üzerindeki etkisinin ve öğrencilerin ve öğretmenin Quizlet'in kullanımı hakkındaki algılarının olumlu olduğunu göstermiştir. Bu araştırma, mobil tabanlı eğitimin üniversitelerin İngilizce Hazırlık programlarında kullanımı açısından pratik uygulamalar sağlamaktadır.

Anahtar kelimeler: Kelime Öğrenimi, Öğrenci Performansı, Öğrenen Özerkliği, Mobil Tabanlı Dil Öğrenimi, Quizlet.



To my beloved wife

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Chapter 1

Introduction

1.1 Theoretical Framework

The increasing use of technological tools in the classroom has enabled English language teachers to apply different teaching methods and strategies. This rapid improvement in technology has given teachers the opportunity to incorporate mobile devices into their teaching practices in order to make their students motivated and eager to learn. Since we live in this technologically advanced era, traditional classroom tools have been replaced by technology-based materials, and therefore more and more students have been using the internet on their laptops, tablets or smartphones to study in and out of class. It is easy for both students and teachers to make use of technology in order to reach the information and the learning materials whenever or wherever needed.

Researchers have been examining the effects and benefits of mobile assisted language learning (MALL) by making use of its inherent features as ‘spontaneous, personal, informal, portable and ubiquitous’ (Kukulska-Hulme, 2006). The findings of the research conducted in this field have revealed that smartphones are effective devices as instructional tools that meet the needs and satisfy the interests of English language learners (Martin & Ertzberger, 2013; Sandberg, Maris & Geus, 2011; Tayebnik & Puteh, 2012). As the advancement of mobile technologies has brought about these changes in language learning, its accessibility has also made it possible for learners to practice language skills on their mobile devices whenever and wherever they want, and thus making these devices beneficial for language learning both inside and outside the class.

The wide use of these mobile technologies has also enabled the educators to shift traditional teaching methods and strategies to mobile-based learning, which is claimed to be more motivational and interesting by researchers. Mobile phones and applications have been utilized to teach and practice all four language skills during the past decade. The use of mobile phones to facilitate vocabulary learning for English learners is increasing since vocabulary knowledge is considered to be a crucial component of reading comprehension and language achievement for the learners of English (Kieffer & Lesaux, 2012; Nagy & Scott, 2001; Nation, 2001), and

the number of applications in the market is also increasing at an incredible speed. Mobile devices enable English teachers to enhance their students' vocabulary acquisition and motivation levels to study English. There are numerous iOS and android applications available on app stores that have the potential to help learners. Therefore, it is very important for educators to know the effectiveness of a mobile application in order to adopt new teaching strategies by utilizing an application to provide a fun means of enhancing students' learning and motivation.

1.2 Statement of the Problem

One of the major problems that Foreign Language learners face in the classroom is the limited time to study and practice using the target words in a variety of contexts and thus, acquire those target vocabulary items and gain competence in different skills. Besides this, the conventional instructional tools used to teach and study vocabulary cannot provide the students with the features such as pronunciation of the words, pictures, videos, or sound, all of which are available through mobile applications that help vocabulary development by enhancing incidental vocabulary learning. Mobile-based vocabulary learning applications not only enable the students to acquire new words through direct conscious study, but also facilitate incidental learning through their game-based features. Quizlet is one of these Web 2.0 applications and study programs that allows the users to create and study with digital flashcards. Through Quizlet, students are provided with means of incidental and intentional lexical study strategies and techniques to expand their vocabulary knowledge in and out of class.

Another common problem is the limited time to practice the spoken language in a variety of contexts and thus gain communicative competence. Together with the opportunities provided by mobile applications to study and learn new words, an indirect benefit of using such applications is that more time is left for students to practice the language conversationally in class by using the new words they have learned, as the vocabulary teaching section of the lessons can be covered out of the class in a way that each student can reach easily at any time. Therefore, this enables the instructor to guide his/her students to be more competent in communication skills. Consequently, the classroom turns into a place where the teacher is always ready to assist the students, who will have more opportunities to produce sentences by using the words they have acquired through this mobile-based flashcard program,

and to interact and communicate more meaningfully in the target language as the lack of time for engaging in communicative activities would no longer be an obstacle.

1.3 Purpose of the Study

The studies conducted so far have investigated various topics and problems regarding different skills related to mobile assisted learning and teaching. However, the effectiveness of using a mobile-based flashcard program and its game-like learning tools, and the impact of such a mobile tool on learners' performance in vocabulary learning, have only recently become popular issues in the field of language teaching. Thus, there is not much evidence exploring the positive or negative effects of Quizlet on students' achievement in vocabulary acquisition, nor on teachers' perceptions about using an application to learn and teach vocabulary, or on to what extent it enables the students become more autonomous vocabulary learners who study on a mobile device out of class. This study, therefore, aims to provide some insights into mobile assisted language learning and the effectiveness of using Quizlet as a supplementary flashcard application to teach vocabulary in an English Language Preparatory Program at a foundation (non-profit, private) university in Istanbul, Turkey. The study also attempts to find out whether integrating such a mobile application has any impact on pre-intermediate level Turkish EFL students' performance, as well as autonomy in vocabulary learning in the existing preparatory program.

1.4 Research Questions

In order to achieve its aim of investigating the effectiveness of utilizing Quizlet on vocabulary learning and helping students become more autonomous learners to study vocabulary through using a mobile application in ESL classrooms, this quasi-experimental study attempts to answer the following research questions:

RQ#1. Is there any difference between using Quizlet and a vocabulary notebook in terms of the ability of students to use target vocabulary correctly?

RQ#2. How does Quizlet help students improve their autonomy in vocabulary learning?

RQ#3. What are the perceptions of students and their instructor about using Quizlet as a tool to learn, practice and teach target vocabulary?

In this study, some hypotheses were put forward based on the aforementioned research questions. The first hypothesis is that using Quizlet will positively impact the students' performance in terms of the quantity of vocabulary they can learn, which means that there will be a difference between the students in the experimental group and their control group counterparts in terms of the ability to use target vocabulary correctly. The next hypothesis is that the students in the experimental class (those who study vocabulary on Quizlet) will perform better in the post-test since they will be able to use the target words more accurately than the ones in the control group (those who keep a vocabulary notebook). This will be measured through a post-test which is designed to assess their acquisition of the assigned vocabulary items in the target language. Finally, it is hypothesized that using Quizlet will have an impact on promoting learner autonomy in vocabulary learning. It is also expected that this study will inspire other researchers to employ such a design to make a comprehensive study to find out the efficacy and efficiency of integrating a mobile application into English classroom for EFL students and teachers at the university level, as this study is going to adopt a quasi-experimental design and will provide insights into the subject for further research in EFL classes.

1.5 Significance of the Study

It is a widely accepted fact that mobile devices are effective and efficient tools with a lot of pedagogical potential in terms of language learning and mastering language skills. Studies analyzing the use of smartphones with different aspects of language learning have supported the idea that mobile technology can enhance learners' vocabulary acquisition. Using mobile phones can enable teachers to provide a rich learning environment for learners, although there are still issues that must be considered before they can reach their full potential. The findings of the studies conducted in this field generally reveal that vocabulary learning by making use of an application on a mobile device is more effective than learning through traditional methods and strategies.

There are some studies available, conducted in various countries, which offer evidence regarding the positive effects of mobile assisted language learning and of using Quizlet on students' vocabulary acquisition. However, the literature lacks an adequate number of studies in Turkey, especially at preparatory programs of universities, to make generalizations and draw conclusions in terms of its efficacy

and effectiveness in practice in this context. This is despite the fact that most of the studies conducted to investigate the effectiveness of Quizlet and similar mobile applications to study vocabulary were carried out with university students who were preparing for exams such as TOEIC and TOEFL. This strengthens the urge to explore the effectiveness of vocabulary teaching and studying through Quizlet in higher education contexts where the students from different departments are studying at the preparatory program of the university. Therefore, this study aims to investigate the overall effectiveness of using a mobile application in an EFL classroom on learners' acquisition of the target vocabulary items and on promoting learner autonomy in vocabulary learning at a private university in Turkey, and also to provide insights into the subject for further research.

1.6 Definitions

EFL: English as a Foreign Language (Mayo, 2003).

ELT: English Language Teaching (Harmer, 2007).

MALL: Mobile Assisted Language Learning (Kukulska-Hulme, 2005; Samuels, 2003; Traxler, 2007).

CALL: Computer Assisted Language Learning (Levy, 1997).

Learner Autonomy: The ability to take charge of one's own learning (Holec, 1981).

Vocabulary Performance: After expanding their vocabulary size, how well and correctly the students use the target words that they need to know in order to communicate effectively "words in speaking (expressive vocabulary) and words in listening (receptive vocabulary)" (Neuman & Dwyer, 2009, p. 385).

Chapter 2

Literature Review

2.1 The Significance of Vocabulary Knowledge in the EFL Classroom

Even though vocabulary is considered to be a sub-skill in language learning, learning the target words is still a crucial constituent of second language acquisition. Vocabulary knowledge plays a significant role in enhancing the main English skills of grammar, reading, writing, speaking and listening (Kayaoglu, Akbas & Ozturk, 2011, p. 24). It is essential for the learners to know a minimum amount of vocabulary items to convey their messages and communicate effectively in the target language. First of all, knowing the words help learners comprehend the texts they read and listen to easily, and it is also very important to be able to produce sentences by using these vocabulary items in different contexts.

It is vital for EFL learners to expand their vocabulary since increased lexical knowledge is generally seen as a component of general second language proficiency (Webb, 2005). Thus and thus vocabulary learning plays a crucial role in mastering a language, however; it must be considered only in the perspective of the whole picture of interactive language teaching. Each student brings information, knowledge, emotion, experience, and culture, that is, schemata to the classroom and to the reading or listening texts that are exploited in lessons for both the improvement of vocabulary and of other various skills.

2.2 Vocabulary Teaching and Learning across Different Teaching Methods

The emphasis put on vocabulary learning and teaching and the importance of communication and lexical knowledge has differed throughout the years as the psychology, linguistics, and educational sciences have advanced.

In the Grammar-translation method, learners were taught the target vocabulary items through literary texts and bilingual word lists. Student practiced via vocabulary exercises that mostly comprised translation questions and were chosen from literature texts (Richards & Rogers, 2014). Bilingual word lists were also used as a study tool to learn and practice target vocabulary items, and thus students were able to study on their own (Schmitt, 2000).

Contrary to the grammar-translation method, the students were thought to learn the target words through interaction with their peers during lessons in the Direct method. Learners were introduced to target vocabulary items for concrete objects through the use of realia and visuals (Zimmerman, 1997). Abstract terms were taught by making use of conventional methods such as mental association and grouping the related words together based on themes.

After the audio-lingual method became popular, the use of pictures and realia was favored more in language teaching. Vocabulary teaching and learning was very limited, since in this method, new words were introduced to students in conversations.

As a result of the shift from the Grammar-translation method towards the Communicative approach to teaching English as a foreign language (Brown, 2000), more emphasis was given to the ability and skills required to interact with others in the target language, which should also be fostered by providing the students with more authentic materials and exposing them to comprehensible input. In other words, the supporters of the Communicative language teaching approach regarded vocabulary learning and teaching as the most important constituents of learning and mastering a language. The students were presented with the most frequently used words and phrases and the adopted vocabulary teaching and learning strategies were based on exposing the students to meaningful contexts where the words were used and repeated coherently. Furthermore, grammar and vocabulary were considered to be interrelated and it was believed that lexical choices restricted grammar (Schmitt, 2000). Thence, more emphasis was given to phrase books and dictionaries rather than grammatical forms and lexical syllabuses comprising frequently used words, collocations, and phrases emerged (Richards & Rogers, 2014).

Based on this overview of various approaches to teaching English, it is obvious that vocabulary teaching and learning were not given the importance they deserved by the supporters of most of these methods. More studies are therefore needed to find out effective methods to foster vocabulary learning and teaching in language classrooms.

2.3 The Meaning of Vocabulary Knowledge

‘Word knowledge’ is a difficult concept to define since knowing a word fully includes linguistic knowledge, too, which makes it a very complicated skill. In other

words knowing only the meaning of a word or being able to translate it into an L1 does not necessarily mean that a learner has learned this word, because word knowledge comprises not only receptive use of the words, which refers to the perception of the part of speech and the recall of the meaning of the word, but also productive vocabulary use, which includes the desire to convey a meaning and the production of the relevant written or spoken word form in appropriate contexts (Nation, 2000). According to Nation (2000) vocabulary knowledge encompasses nine aspects and three categories including the form, the meaning, and the correct use of the word, which also comprises pronunciation, spelling, and register. Nation (2000) states that knowing a target vocabulary item involves the knowledge of form (written, spoken, word parts), meaning (form and meaning, concepts and referents, associations) and use (grammatical functions, collocations and constraints on use).

Knowing word form means being able to identify the word parts, spoken and written forms of the vocabulary. Word form refers to the knowledge of the correct spelling (graphical or written form) and pronunciation (spoken form) of the word, and knowing the parts in a word that are meaningful (word parts), which are all crucial aspects of successful production and comprehension. Knowledge of the word meaning refers to the meaning of the word, the concepts that a word is related and the units it refers to, and also other vocabulary items and meanings that are attached to a word. Knowing what a word means is described as the knowledge of the basic meaning of a word (meaning), the other attached meanings to this word in various contexts (concepts and referents), as well as the knowledge of synonyms or similar words that can replace a specific word in appropriate contexts (associations). The items that comprise the aspects of knowing word use, as categorized by Nation (2000), are “knowledge of a word's grammatical functions, knowledge of a word's collocations, and knowledge of a word's register and frequency”. To put it in another way, the correct use of the word means the knowledge of the grammar patterns this target vocabulary item can be used in (grammatical functions), what other words or prepositions this word is usually combined with (collocations), and the knowledge of the appropriate place, specific time, and moderate frequency of usage of this word (knowledge of the register and restrictions on use).

Similarly, Ur (1991, pp. 60-62) also writes about the significance of complex vocabulary instruction, which includes not only teaching the meaning of words, but also the necessary linguistic knowledge to be able to use the words properly in

various contexts. According to Ur, the main areas that teachers need to pay special attention to while teaching new words include form, grammar, collocation, aspects of meaning (denotation, connotation, and appropriateness), meaning relationships, and word formation.

In brief, what it means to know a word comprises various aspects including the form, meaning, and register, which refers to using the word correctly in appropriate contexts, in general.

2.4 The Components of Effective Vocabulary Instruction

The difference in categorizing the aspects of what knowing a word comprises between different educational researchers and authors raises the question how new words should be introduced to the students. Brown (2001, p. 377) states that the best way of internalizing the target vocabulary items is to be exposed to the words within a context and through comprehension or production. Brown (2001) also points out that if the students are introduced to the target words within a communicative body surrounding the discourse, this will enable the students to make associations between the new words and the meaningful context in which they are used.

According to Loucky (2010), effective vocabulary teaching consists of three crucial aspects. To begin with, the physical conditions and the learning environment of the classes that the students are taught in should make it possible both for the teachers and the students to focus on the vocabulary learning and teaching. Secondly, the target words should be taught to the students through a thoroughly planned lesson and by making use of various activities and tasks to foster the students' vocabulary enhancement in an intentional manner. Additionally, more emphasis should be put on the crucial role of repetition and reinforcement in vocabulary learning and teaching, which are provided by Quizlet flashcards application through its various study and game-like features. It is a widely accepted fact that reinforcing the newly learned items contributes a lot to students' performance in vocabulary learning via repeated exposure to target vocabulary and is an effective method to foster learning. This reinforcement is usually implemented via tasks and activities that are different from the initial encounter. For example, in a study with young learners, Roberts and Neal (2004) reinforced the meanings of target vocabulary items and revised them by using realia, drama, and art activities. Thirdly, meanings of the new words should be fostered through the use of useful vocabulary learning tools like word cards and

vocabulary notebooks that enable students to study, learn, and revise new target words.

The first component of effective vocabulary instruction comprises promoting ‘word consciousness’ (Loucky, 2010). Word consciousness can be considered as the metacognitive or metalinguistic knowledge that each learner brings to the classroom and it can also be regarded as having an interest in learning words and learning about various aspects of words as well as an awareness of words (Scott and Nagy 2004). An awareness of words encompasses “an appreciation of the power of words, an understanding of why certain words are used instead of others, a sense of the words that could be used in place of those selected by a writer or speaker,” and the awareness of first encounters with words (Graves & Watts-Taffe, 2002). Quizlet provides the students with increased word consciousness since its study tools and game features, which make use of spaced-repetition through incidental and intentional strategies, require the students to recall the words in a short time. Additionally, they enjoy playing these games and thus they boost the students’ interest in vocabulary learning.

It should also be noted that the number of words that a student can acquire in a short time is limited. Therefore, if learners are required to learn a long list of words, they need assistance to develop strategies in order to study the target vocabulary items over more than one or two study sessions and revise these words at regular intervals over the assigned period of time, which is referred to as spaced-repetition. Nation (2001) asserts that spaced-repetition serves as a more effective strategy to revise than massed repetition. This means that it is better for the learners to pay attention to the lexical items for a shorter time, but that exposure to these words should be spread over a longer period of time than spending the whole time revising the items at once (p. 114).

In brief, good vocabulary instruction is a vital constituent of effective language teaching and thus effective vocabulary learning strategies should be promoted to enhance the students’ performance in vocabulary learning through providing them with the necessary tools and methods to practice and retain the target vocabulary.

2.4.1 Incidental and intentional vocabulary learning. Incidental and intentional vocabulary learning are mainly used to address two different approaches to vocabulary instruction and learning and the discrimination between them is one of

the principal controversial issues in the field of vocabulary teaching and learning. Nation (2001) states that incidental vocabulary learning differs from intentional vocabulary learning in that an incidentally learned word refers to one that was presented and learned in a meaningful context. Nation also argues that the main underlying difference between incidental and intentional learning is related to how the words were acquired (Nation, 2001). Similarly, implicit vocabulary learning refers to the acquisition of words through reinforced and repeated exposure to target vocabulary items by making use of communicative tasks and activities and by inferring meaning of new words from the contextual clues. On the other hand, explicit vocabulary learning is described as a more conscious or planned way of learning target words.

Furthermore, the distinction between implicit and explicit learning is also made regarding vocabulary examinations and tests as well. According to Craik (1972) and Eysenck (1982), incidental and intentional learning can be differentiated 'in terms of the use of pre-learning instructions that do, or do not, warn the participants about the existence of a subsequent retention test before it is administered'. To put it in another way, intentional vocabulary learning favors forewarning students about the existence of a retention test, while the learners are not informed before the vocabulary tests or exams in incidental vocabulary learning (Laufer & Hulstijn, 2001).

In the present study, an intentional vocabulary learning paradigm was adopted since the learners in this study find it difficult to learn and retain target vocabulary items under time constraints, which was revealed based on not only the informal discussions with the students, but also their vocabulary test grades in the previous levels. The learners were also forewarned about the existence of a post-test after the intervention.

2.4.2 Productive vocabulary vs. receptive vocabulary of learners. The terms used to describe the concepts of receptive and productive vocabulary knowledge of learners often differ. A number of terms to describe these notions were put forward by Melka Teichroew (1982); receptive and productive, active and passive, comprehension and production, understanding and speaking, recognitional vocabulary and actual or possible vocabulary use. Nation (2001) postulates that receptive vocabulary knowledge is related to the information received from others through communication, while productive knowledge refers to the information

conveyed and the language forms that are produced to transmit the messages. Nation (2001) also asserts that receptive and productive vocabulary knowledge of a word comprises all aspects involved in what it means to know a word.

In order to make the distinction between receptive and productive vocabulary use more clear, Nation (2001) states that receptive vocabulary use entails being able to identify parts of speech of specific words while reading or listening to a text and retrieving their meanings based on the context. Productive vocabulary refers to the desire to use vocabulary items and the required knowledge to convey a meaningful message by speaking or writing in an appropriate context. On the other hand, Nation (2001) also points out that the aspects of productive knowledge are involved in receptive use since reading or listening skills involve producing meaning as well. Furthermore, Nation (2000) states that learning what part of speech a target word is can be more challenging for learners than learning the definition or the meaning of the word because it is more possible for different languages to have the shared knowledge of meaning than the similarity regarding the knowledge of form.

Passive and active vocabulary knowledge terms are also used to refer to receptive and productive vocabulary knowledge by many different authors (Corson, 1995; Laufer, 1998; Meara, 1990). Laufer and Goldstein (2004) point out that passive knowledge refers to being able to identify the part of speech and meaning of the word. Whereas active word knowledge is used to describe the ability to comprehend the appropriate spoken or written word form of the meaning.

2.5 Keeping a Vocabulary Notebook for Vocabulary Development

In general, second/foreign language learners need to learn effective strategies that promote independent vocabulary learning, in order to expand their vocabulary knowledge and to master all the necessary skills to acquire/learn the target language. Keeping a personal vocabulary notebook is one of the independent vocabulary strategies that has proved to be an effective tool to help learners acquire target words (Folse, 2004; Fowle, 2002; McCrostie, 2007; Schmitt & Schmitt, 1995; Bozkurt & Walters, 2009). McCrostie (2007), for example, defines a vocabulary notebook as “any form of notebook used for recording new and useful vocabulary and some additional information about the word” (p. 247). As indicated by Fowle (2002), keeping a vocabulary notebook enables the learners to practice vocabulary through written word lists that include parts of speech, pronunciation, collocations,

synonyms, and antonyms of the target words. Vocabulary notebooks also allow the students to draw vocabulary mind maps and categorize words based on the word families in a detailed way. This strategy also enhances learners' vocabulary development and expands the vocabulary size of the learners via consolidation strategies that reinforce meanings of the lexical items.

Many studies highlighted the importance of keeping a vocabulary notebook in language classrooms (Bozkurt & Walters; 2009, Kálecký; 2016, Vela & Rushidi; 2016). To exemplify, in a study conducted by Kálecký (2016), the students who kept a vocabulary notebook to store and revise vocabulary items showed similar progress in terms of expanding their vocabulary knowledge and retention to the ones in the treatment group who studied and revised through Quizlet. The findings also revealed that using Quizlet did not lead to better progress and that it wasn't found to be a more effective tool than studying with vocabulary lists and keeping a notebook.

In another study conducted by Bozkurt and Walters (2009), the participants went through the same instructional procedures and they were taught the target words through the same materials and through similar strategies. However, the students in the treatment group kept vocabulary notebooks to store and revise new words. The obtained findings showed that keeping vocabulary notebooks facilitated the students' learning and those in the experimental group performed better than their control counterparts in tests designed to measure their receptive and productive knowledge of the target vocabulary items. On the other hand, the students also stated that they did not think of using vocabulary notebooks on their own after the intervention period was over. The participants interviewed after the treatment also reported that keeping a vocabulary notebook was difficult and time consuming. Similarly, the participating teacher in this study thought that it took a lot of class time to make students keep effective vocabulary notebooks that reinforced their learning. The reason why the teacher found keeping vocabulary notebooks time consuming in this study might be the time constraints in the curriculum, since the students need to learn many vocabulary items in a short time and there are many different skills to master, too.

In a similar study carried out in an attempt to investigate the effectiveness of keeping vocabulary notebooks on learners' vocabulary learning performance and in promoting learner autonomy to study vocabulary, Vela and Rushidi (2016) adopted an experimental design with three groups of students (one treatment and two control

groups). The participating students were all Intermediate learners of English from the South East European University Language Center. The materials used in all classes were the same as well as the flow of the curriculum. The students in the treatment group kept vocabulary notebooks over the course of ten weeks, and their counterparts in the two control groups learned the target words without keeping a notebook. The findings of this study also revealed that keeping vocabulary notebooks had a significant impact on learners' vocabulary learning performance based on the obtained scores from the vocabulary tests. Additionally, the students' overall attitudes towards learning new words by means of keeping a vocabulary notebook were mostly positive.

In brief, several benefits have been ascribed to the use of vocabulary notebooks:

- enhancing vocabulary study (Schmitt & Schmitt, 1995);
- improved ability to use dictionaries and guess from context (Ledbury, n.d.);
- keeping teachers informed about learners' progress (Fowle, 2002; Nation, 1990); and
- enhancing learner autonomy (Fowle, 2002).

To wrap up, even though keeping a vocabulary notebook received a great deal of attention in the literature as an independent vocabulary learning strategy, it requires substantial teacher input, which means the teachers need to assist learners to develop effective strategies to study vocabulary through written word lists and vocabulary notebooks.

2.6 Learning Vocabulary through Flashcards

There are quite a number of vocabulary learning strategies, including discovery and consolidation strategies, to get and reinforce the meaning of words for vocabulary development. According to Chamot and Kupper (1989), these strategies refer to the "techniques which students use to comprehend, store, and remember information and skills" (p. 9). Flashcards and word lists are considered to be the most common strategies preferred while studying vocabulary (Kramersch, 1979). The use of visuals enables learners to learn new words more easily through memory strategies that help the learners to associate new words with existing knowledge with the help of images and pictures (Schmitt, 1997).

A word card is defined by Nation (2000) as a card that has a foreign word on front and the meaning at the back. What is written on the front of the card usually differs; it can be in the form of a first language translation or the English definition of the word, and often visuals are used to enable learners to make associations with the target word. The main purpose of using cards for vocabulary development is to learn the meaning of a target vocabulary item easily through self-checking by turning the card over. Learning new words using word cards is considered to be a decontextualized way of studying vocabulary, which involves learning only the meaning or the definition of words without having a communicative purpose to use these words in a meaningful context. This aspect of word cards was criticized by researchers including Judd (1978), who asserted that it is not easy for learners to recall the words that are learned in isolation.

On the other hand, the use of word cards are favored by researchers like Nation (2000) since these cards enable the students to learn, recall, and retrieve a great number of words in a short period of time. Nation (2000) claims that words cards make it easier for students to form associations between words and meanings. Words cards enable the students to check the meaning of the target vocabulary items whenever they need help. Flashcards foster the vocabulary learning performance of the participating students. A study by Webb (2009) showed the effectiveness of pair-associated learning through flashcards to memorize a lot of words in a short time. Nakata (2011) also advocates the use of flashcards in vocabulary learning but he gives prominence to computer-based flashcard programs as the multimedia features of these flashcards make them more efficacious than paper-based cards and strategies to learn new target words.

In brief, learning target vocabulary items through the use of flashcards provides students with sufficient exposure to retrieve these words easily and quickly. Studying vocabulary with word cards is an intentional learning strategy, which is more useful and effective when the students devote more time to vocabulary learning. Therefore, the use of digital flashcard programs is favored since they enable learners to access the flashcards easily and are more effective in fostering the students' performance in vocabulary learning with the help of multimedia features, which lead to higher retention and the ability to retrieve the words with the help of visuals.

2.7 Learner Autonomy in Vocabulary Learning

The concept of autonomy in learning is first defined by Holec (1981) as “ability to take charge of one’s own learning”, and he adds that this ability “is not inborn but must be acquired either by ‘natural’ means or (as most often happens) by formal learning, i.e. in a systematic, deliberate way”, and he asserts that “to take charge of one’s learning is to have [...] the responsibility for all the decisions concerning all aspects of this learning.” (Holec 1981, p. 3). Dafei (2007) asserts that learner autonomy is a crucial aspect of language learning that enables an individual to fulfil his/her potential. Nation (2000) states that learners need to be autonomous learners, which requires learners to take control and responsibility for their own learning. Furthermore, teachers need to guide their students to become more autonomous vocabulary learners by facilitating their performance in vocabulary learning through the use of vocabulary learning strategies that foster learner autonomy since “it is not possible for students to learn all the vocabulary they need in the classroom” (Sökmen, 1997, p. 225). Similarly, Little (2007, p. 26) defines learner autonomy as “the product of an interactive process in which the teacher gradually enlarges the scope of her learners’ autonomy by gradually allowing them to take more control of the process and content of their learning”.

Nation (1997) states that students need the skills to use appropriate strategies when they encounter unknown vocabulary items in reading or listening texts, and to cope with difficulties in productive vocabulary in speaking and writing, to become more fluent in using the words they learned and to learn new words in isolation, which means in a decontextualized way.

In brief, EFL teachers need to act as facilitators in order to promote learner autonomy and thus help their students to expand their vocabulary knowledge. However, the students’ being more autonomous does not necessarily mean that the teachers need to become passive in the teaching and learning process. On the contrary, the teachers have various roles regarding vocabulary instruction which include pre-teaching the vocabulary items relevant to tasks and activities, and teaching students the strategies to reinforce retention and learn vocabulary autonomously.

2.8 Multimedia Learning Theories

Multimedia learning refers to learning through forming mental representations of words and visuals (Mayer, 2001, p. 3). Mayer's (1997) Generative Theory of Multimedia Learning (GTML) provides a base to learning in multimedia environments. Similarly, instructional design regarding how people process different types of information and how senses help them learn in multimedia learning is based on Mayer's (2009) Cognitive Theory of Multimedia Learning. The cognitive theory of multimedia learning (CTML) is based on the idea that making meaningful associations between words and pictures enable the learners to learn in an easier and better way than they could have with words or pictures alone.

According to Mayer and Moreno (1998), the three assumptions asserted by the advocates of CTML theory are the dual-channel assumption, the limited capacity assumption, and the active processing assumption. The cognitive principles of learning underlying the dual-channel assumption put the emphasis on auditory and visual channels of working memory, which are founded on the principles of Baddeley's (1986) theory of working memory and on dual coding theory, proposed by Paivio (1986) and Clark and Paivio (1991). Paivio (1971) asserts that the human brain has the capacity to process various pictorial and verbal pieces of information at the same time, which means the human brain can handle language, gestures, and situations all at once. Based on this assumption, the researcher advocates that depiction of a word through verbal and imagery codes is a more effective way to learn than only making use of verbal codes. Finally, he states that illustration of a word with two memory codes increases the chances of recalling that item.

In a study by Shen (2010), the effects of two encoding methods adopted to learn Chinese vocabulary items on students' learning were compared. The main theoretical framework of the study was the dual coding theory. One group of participants were provided with only verbal encoding and the other group used verbal encoding together with imagery encoding. The study aimed at investigating the impact these two different methods had on learning concrete and abstract Chinese words. The results revealed that there was no significant difference in the impact that verbal and imagery encoding and verbal encoding only method had with regards to the sound, shape, and meaning of the concrete words and the students' retention rate. However, the findings illustrated that verbal encoding was more effective when it

was used together with imagery encoding in terms of the shape and meaning of abstract words and the retention rate.

In addition, Kramersch and Anderson (1999) also highlight the significance of multimedia tools by highlighting the two essential aspects of multimedia learning, which are the use of visual and words together to create a contextualized and purposeful learning opportunity for students and enabling students to manage their own interaction with the multimedia tool to promote learner autonomy.

To summarize, multimedia instruction is described as creating planned encounters to expose the students to vocabulary items through the use of pictures and words in order to foster vocabulary learning. Therefore, the use of multimedia learning and teaching tools, which include mobile flashcard applications and programs, are based in multimedia learning frameworks that highlight the effectiveness of using words and pictures together to reinforce learners' vocabulary learning.

2.9 Implementation of MALL Tools for Vocabulary Learning

The increasing use of mobile devices has given rise to development of a number of applications to facilitate the process of teaching and learning in EFL classrooms. Similarly, innovations in technology provide teachers and students with opportunities to enhance vocabulary acquisition. MALL is considered and proved to be more effective in fostering vocabulary learning through various types of exercises based on multimedia learning than paper based learning and teaching strategies and tools (Alavinia & Qoitassi, 2013; Chu, 2011; Motallebzadeh & Ganjali, 2011).

The vocabulary learning and acquisition studies conducted in the field can be categorized into research with and without technology (Zhang et al., 2011). Most of these studies focus on the issue in terms of the learning strategies, the effectiveness of reading texts, syntactic and thematic analysis of vocabulary acquisition and vocabulary learning strategies.

It is a widely accepted fact that mobile devices are effective and efficient tools with a lot of pedagogical potential in terms of language learning and mastering language skills (Burston, 2013). Studies analyzing the use of smartphones in different aspects of language learning have supported the idea that mobile technology can enhance learners' vocabulary acquisition (Godwin-Jones, 2011). Additionally, using mobile phones can enable teachers to provide a rich learning environment for

learners, although there are still issues that must be considered before they can reach their full potential. There are quite a number of studies examining the effectiveness of mobile applications on vocabulary learning. The main findings of these studies reveal that vocabulary learning by making use of an application on a mobile device is more effective than learning through traditional methods and strategies (Altiner, 2011; Azabdaftari & Mozaheb, 2012; McLean, Hogg, & Rush, 2013).

A majority of the studies which have been recently conducted on vocabulary acquisition, explored not only the role of mobile devices and applications, but also online flashcard programs and websites in vocabulary acquisition (Al-Jarf, 2007; Kiliçkaya & Krajka, 2010; Stockwell, 2010; Thornton & Houser, 2005). To exemplify, in a recent study, McLean et al. (2013) aimed to explore the effectiveness of the online flashcard site Word Engine as a supplementary tool for vocabulary learning among Japanese university students. The results of this study revealed that the website enhanced the students' L2 vocabulary performance. The students who studied vocabulary by using this flashcard website outscored those who used extensive reading to study the vocabulary items on the vocabulary post-test, which is clear evidence that utilizing an online flashcard website is a more efficient way to study and acquire vocabulary. Likewise, in a comparative study conducted in Turkey by Başoğlu and Akdemir (2010), the effectiveness of using a digital flashcard program, ECTACO (simple mobile flashcards application), was investigated in comparison to paper-based vocabulary flashcards. The participants of the study were 60 EFL students studying in the English Preparatory Program at a public university and they were required to study 1000 target words over the course of six weeks. The obtained findings of this study revealed that both the participants in the experimental group who used the mobile application and the ones in the control group who studied vocabulary using paper-based flashcards improved their vocabulary knowledge. However, the students in the treatment group had significantly better results than their control group counterparts, and those who studied using the application reported that this tool was a motivating tool.

In another study on MALL, Azabdaftari and Mozaheb (2012) looked into the effectiveness of mobile-based flashcards in the vocabulary learning performance of Iranian university students. The interviews with students in this study highlighted that the convenience of the flashcards and the entertainment factor of using the

application motivated the students more to study vocabulary on their mobile devices in and out of the class.

Furthermore, the use of mobile devices which can connect to the internet in education has increased at a rapid rate since the iPad was first introduced in 2010. Empirical findings also revealed that applications specifically developed to run on these devices promote student progress regarding speaking, reading, and writing skills (Harmon, 2012; Lys, 2013; McClanahan, Williams, Kennedy, & Tate, 2012) and these applications enhance the learning motivation (Kinash, Brand, & Mathew, 2012).

Recent research also suggests that mobile assisted language learning provides language learners with the required amount of exposure to acquire the target structures and vocabulary items (Thornton & Houser, 2005; Clark, 2013; Wang et al., 2015). For example, an experimental study carried out by Clark (2013) in a large school district in Western New York with five English language learners at the first grade sought to explore the effectiveness of using an iPad application (Vocabulary Builder) on the vocabulary learning of elementary level learners of English. The study lasted for 12 sessions in total, one 30-minute session daily, and the control group in this study studied a vocabulary worksheet prepared by the teacher to learn and revise the target vocabulary structures whereas the students in the experimental group did the exercises on the iPad application. The results revealed that iPad application enhanced the vocabulary acquisition of the students in the experimental group. The application provided these students with additional exposure to vocabulary items as they were able to study with the flashcards (visual exposure) and listen to the pronunciation of the words (auditory stimulation) by using the application. The students in the experimental group who used the iPad application reported that they were more engaged in the exercises and activities and more motivated to learn the vocabulary.

In a similar fashion, Wang et al. (2015) examined the efficiency of iPad applications on vocabulary learning and engagement of English learners at the university level. The researchers conducted an experimental study with two freshman English classes (74 students in total) at a private university in Taiwan. The experimental group learned the vocabulary items via the Learn British English WordPower application and the students in the control group studied vocabulary and learned the target words by making use of the semantic-map method. According to

the findings, the students who used the application to learn the vocabulary items improved their vocabulary knowledge more and were more engaged and motivated to learn the vocabulary than those in the control group.

Furthermore, studies also investigated the educational use of mobile devices to enhance vocabulary acquisition by integrating the text message function of mobile phones and vocabulary learning. Specifically, research conducted to explore the effectiveness of text message on vocabulary learning (Thornton & Houser, 2005; Lu, 2008; Cavus & Ibrahim, 2009; Nwaocha, 2010; Zhang et al., 2011) revealed significant findings. Specifically, the data clearly showed that spaced-repetition of the target vocabulary items enhanced students learning, and that mobile phones are great tools to expose learners to these spaced vocabulary items.

In another experimental study conducted by Thornton and Houser (2005) with thirty-one Japanese college sophomores, the students in the experimental group who were exposed to spaced-repetition by mobile phones acquired considerably more vocabulary than those using printed out vocabulary worksheets. The main reason behind the success of vocabulary acquisition in that way is primarily the ‘push media’ effect, which supports learning by facilitating frequent revision and spaced study, and makes use of recycled vocabulary. They asserted that this ‘spacing affect’ created by the exposure to target words in fragmented intervals promoted the retrieval of these vocabulary items.

In brief, the studies carried out on Mobile-Assisted Language Learning (MALL) elicited sufficient evidence that implementation of new technologies in foreign language teaching is an effective way to teach and study vocabulary.

2.9.1 Studies on students’ and teachers’ perceptions towards MALL.

Studies analyzing the use of mobile technology in the different aspects of language learning have supported the idea that mobile technology can enhance learners’ second language acquisition. Learners’ attitudes towards technologies, their intention to use it, and the various actual uses of mobile technology integrated in their second and foreign language learning is a dominating research focus (Chang & Hsu, 2011; Cheng et al., 2010). As mobile technology develops, it gives second or foreign language learners and teachers great opportunities to practice the target language “anywhere and anytime” (Geddes, 2004). The impact of mobile technology on language learning has often been measured by individuals’ own stated perceptions.

Studies on student perceptions towards MALL have been conducted more recently as a consequence of increasing mobile device ownership and in an attempt to seek effective and creative ways of teaching vocabulary.

To begin with, the findings of a study conducted by Kennedy and Levy (2008) revealed that a great number of learners regard learning new words via mobile devices as a more motivating and efficient way of studying. Another piece of research carried out by Stockwell (2010) pointed up the significance of using MALL strategies since the participants in this study also reported that they felt more eager and enthusiastic to learn vocabulary despite some obstacles they encountered during the MALL sessions. A similar study was carried out by Dashtestani (2013) in an attempt to explore the attitudes of 126 Iranian students and 73 EFL teachers towards the use of electronic dictionaries. The results revealed that both the students and teachers had mostly positive attitudes and perceptions with regards to using an electronic dictionary to learn and teach the definitions of target vocabulary items. This finding was also attributed to the fact that the students were able to access the electronic dictionaries easily whenever and wherever they needed to use them, since they were installed on students' own smartphones. This made vocabulary instruction more convenient and practical for the teachers, too.

Additionally, in another research study done by Al-Fahad (2009) in Saudi Arabia, the attitudes of learners towards using MALL were also analyzed. The research aimed to explore the effectiveness of mobile learning tools and to find out whether these mobile methods improved students' engagement, enhancing both teaching and learning. In the study it was found that the students were eager to use sources of m-learning via mobile phones, laptops and PDAs so that access to information would be anytime and anywhere. Al-Fahad's study revealed that mobile learning activities could much better engage students in the learning process, and students reported in the survey that they became engaged learners who were more willingly, behaviorally, intellectually and emotionally involved in their learning tasks.

Kim et al. (2013) also studied students' perceptions of utilizing mobile learning tools and strategies - focusing on what students feel about using mobile devices in order to have a personalized learning experience outside the classroom. The results of the study indicated that mobile technologies had the potential to offer new learning experiences by providing the learners with anytime and anywhere access.

This ease enabled the students to be more engaged in learning activities through increasing the interaction and co-operation among them.

Another study by Hsu et al. (2008) describes the pilot testing of a system that linked mobile phones to the online Evoca voice recording application to create web-based audio blogs for the submission and archiving of oral assignments. The instructor also used the audio blogs to interact with learners, evaluate their performance, and provide feedback. The system was trailed for a semester by 22 L2 English university students. While 82% agreed that the mobile-accessible audio blog was a good language learning tool, only about half actually made any audio blogs. The findings revealed that by using mobile phones, teachers can provide a rich learning environment for learners, although there are still issues that must be considered before they can reach their full potential.

In addition, research also suggested that collaborative speaking and listening skills can be successfully developed by mobile phone capabilities. Some studies focused on reducing the negative effects of L1 in L2 pronunciation, and thus, the negative effects of fossilization (Uther et al., 2003; Uther et al., 2005; Uther, 2007). The study by Uther et al. (2003) is the first of three articles relating to a mobile adaptive CALL program (MAC) intended to help Japanese speakers of L2 English to perceptually distinguish the /r/ versus /l/ phonemic contrast. This article focuses on the design of the system and the algorithms used to present learners with more trials in the area where they make most mistakes. Initial tests of the MAC algorithm with a control group found a good fit between the observed and predicted behavior of the MAC adaptation.

Nah, White and Sussex (2008) investigated the potential of using cell phones to browse wireless application protocol (WAP) sites for the purpose of learning listening skills. Their study focused specifically on the attitudes of language learners toward using a cell phone for this purpose. The study was based on input, interaction, output and socio-culture theories, as well as on collaborative, learner-centered, constructivist and task-based learning approaches. An experiment was carried out with a group of undergraduate students who had enrolled in required intermediate English as a foreign language (EFL) listening course at a Korean university. A WAP site was designed and used as the instrument for the experiment. They found that the language learners expressed positive attitudes toward the use of the WAP site. They

also found that the WAP site was effective for learning listening skills and for student-centered and collaborative learning.

A case study entitled ‘Teachers’ and Students’ Attitudes Towards the use of Mobile Assisted Language Learning’ conducted by El Boukhari Ghrieb (2015) with the Master One EFL Students and EFL Teachers at University of Mohamed Kheider of Biskra aimed to find out the students’ attitudes towards mobile assisted language learning. Participants were requested to answer to what extent they believed that mobile devices could be used to teach (listening, speaking, writing, speaking, and vocabulary). The findings of this study revealed that both students as well as teachers had positive attitudes toward mobile assisted language learning. Likewise, both showed a general agreement on the potential of MALL as a promising approach to learning foreign languages. Listening, speaking, reading, and vocabulary were identified as the most appropriate skills that could be taught through mobile devices such as mobile phones. By contrast, both groups of participants were uncertain about the potential of MALL to enhance academic writing. The latter is not surprising since most critics focus on the small screen and keypads as the most challenging aspect of mobile-assisted language learning to handle activities such as writing. Finally, students have shown their willingness and preparedness to adapt mobile assisted language learning.

Additionally, in a descriptive study, Saidouni and Bahloul (2016) endeavored to explore the students’ and teachers’ attitudes towards using mobile assisted learning and teaching tools in the language classrooms at the university level. The findings of this study also revealed that both EFL teachers and students have positive attitudes towards the effectiveness of MALL. Similarly, the participating teachers and the students reported that mobile tools have the potential to enhance listening, speaking, and reading skills. Students in this study also agreed that they were motivated and eager to use their own mobile devices to improve their skills and subskills in English.

To sum up, when the reviewed literature on students’ perceptions about using MALL and CALL tools are taken into consideration, it is clear that technological tools are generally favored over the paper-based learning materials and the students’ positive perceptions indicate the need for a shift in not only vocabulary instruction but also teaching other main skills of English. The reviewed studies also point up the

importance of integrating technological tools into English language classrooms in order to motivate and engage students in learning tasks more.

2.10 Quizlet in a Language Classroom

Quizlet is one of the most widely used online flashcard websites, which is also available as a mobile application that can be used on Apple iOS and Google Android mobile platforms for free. Numerous studies have been carried to investigate the efficacy of this application to promote vocabulary learning and retention (Chien, 2013; Jackson, 2015; Dizon, 2015).

To begin with, a study which was conducted with 76 university students by Chien (2013) in Taiwan, sought to explore the participants' perceptions of preparing vocabulary flashcards on Quizlet. This study also investigated these students' practices, learning records and self-reflection on creating flashcards by using Quizlet. This study was carried out during one semester from September to December in 2012. The findings of the study revealed that the Space Race function was seen by the students as the most effective activity to learn vocabulary. The students did not like the Scatter activity, stating that this type of matching exercises were not fun to do. Besides, they stated that they didn't enjoy the Test function as the feeling that they were being tested made them uncomfortable. The most challenging aspect of making flashcards with this tool, as reported by the students, was choosing the proper definitions for the given vocabulary items. The main conclusion drawn by the researcher at the end of this study was that only teaching the meanings of words is not sufficient to improve the students' vocabulary knowledge and that the students should be provided with parts of speech, example sentences, synonyms, antonyms, collocations, or translations while learning words in an academic context.

A similar study carried out by Dizon (2015) in Japan investigated the effectiveness of Quizlet on enhancing the vocabulary knowledge of 9 Japanese university students. The study was conducted during a period of 15-weeks in the spring semester. Based on the data analysis, it was concluded that Quizlet was a useful and effective tool which promotes vocabulary acquisition. Most of the participants stated not only that they liked using Quizlet as a vocabulary learning application but also they would like to continue making use of it to study vocabulary in the future. The majority of the students in this study used their smartphones in

order to access Quizlet, which is an indicator of the popularity of the mobile devices to learn languages and the shift towards mobile assisted language learning.

Similarly, Tran (2016) investigated the attitudes of 21 Vietnamese university students towards using Quizlet to learn target vocabulary items while preparing for the TOEIC exam. The participants of this study were highly motivated since they were university students studying English in order to get a high score in the TOEIC exam. The learners used the Quizlet application on their smartphones to study vocabulary out of class time and the vocabulary set the students studied in this study consisted of vocabulary items selected for the TOEIC, and it was an existing set prepared for Vietnamese students. The study was carried out over a five-week period at the University of Foreign Language Studies, University of Danang in Vietnam. The students who got high scores in games and activities on Quizlet shared the screenshots showing their achievement with their peers, which was a motivating factor for other students to study vocabulary on this application. The findings of the study showed that although the use of Quizlet was disappointingly low among the students, their attitudes towards using Quizlet in order to enhance their vocabulary knowledge was mostly positive.

In one recent study in the United Arab Emirates, Jackson (2015) investigated the role of Quizlet in promoting vocabulary learning and found that teachers and students preferred using Quizlet to Educreations, which is a mobile application that allows teachers to make videos for their students. Jackson (2015) analyzed the students' study habits out of class time and found that most of the students studied the vocabulary items on Quizlet. The findings of another recent study carried out by Kálecký (2016) on the impact of Quizlet and vocabulary notebooks on students' progress, retention and autonomy in Czech Republic also revealed that the students favored storing and revising the target words by means of Quizlet over keeping a vocabulary notebook and that a vast majority of the participants reported that Quizlet is a more entertaining tool than written vocabulary lists. The results of this study also showed that the participants found Quizlet to be an easy to use and accessible tool to study vocabulary.

Despite the increasing number of studies in the field exploring the use and effect of mobile phones and applications on facilitating vocabulary learning and improving student motivation and engagement, there is still a need to further investigate the effectiveness and utilization of smartphone applications for

vocabulary acquisition due to mainly two factors. Firstly, the studies on the effectiveness of mobile applications in the context of Turkey and at the university level to examine the adult learners' perceptions are relatively rare. English learners in different regions and different parts of the world might not have similar attitudes towards the pedagogical use of this mobile application to acquire new words. Most adult learners find it difficult to revise and study regularly to learn target vocabulary items, and they need guidance from their instructors to be able to learn autonomously when they are not in class. Mobile phones can support autonomous learning and provide students with a facilitating tool to learn and revise vocabulary. The second consideration is that designing and developing a future mobile learning pedagogical application requires the developers to be aware of the features of the mobile applications that enhance vocabulary learning and motivate the learners more.

Based on these overviews, the present study seeks to uncover the uncertainties connected to mobile assisted language learning with a special focus on mobile assisted vocabulary learning through Quizlet, and to find out the perceptions of the Turkish EFL learners of using such a technological tool in English Language Preparatory programs at the university level.

2.11 Target Vocabulary

The vocabulary items selected for this study were based on the 80 target vocabulary items that the students were required to learn in Empower B2 from the units that were included in the curriculum, over the course of eight weeks.

2.12 Teaching Materials

2.12.1 An overall view of Quizlet. Quizlet, which is a free study tool for learners and teachers, was used in the current study as the main vocabulary teaching tool in the experimental group. Quizlet is based on a very complex system and it continually develops. Quizlet serves as a very useful tool for teachers to engage their students in what they're learning and it has seven different study and game modes which include (a) flashcards, (b) learn, (c) spell, (d) test, (e) match, (f) gravity, and (g) live that are designed to help everyone with different learning habits or pace. The main study set of Quizlet is shown in Figure 1 below:

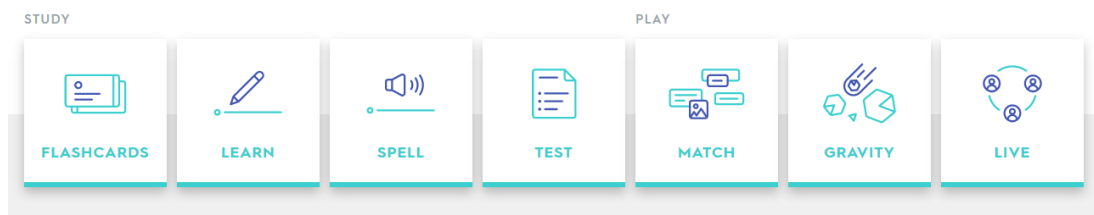


Figure 1. Main set of Quizlet study and play tools

After signing up for an account on the Quizlet website or application on iOS and Android devices, users can start studying various topics and lessons with friends or on their own in and out of the classroom. To date, Quizlet users have created over 140 million sets covering everything from basic Spanish and AP US History, to cashier codes for a new job and materials to prepare for the TOEFL.

Quizlet was chosen in this study mainly due to it being more popular than the other digital flashcard programs and applications (e.g., Cram, StudyBlue, Anki, SuperMemo). The current study attempted to evaluate the effectiveness of a flashcard program preferred by a great number of learners. Therefore Quizlet was selected as it has one million active users and 20 million monthly learners who study lots of different topics. Along with its popularity, Quizlet has a very simple and easy-to-use interface so students can learn its use in a very short time. Additionally, Quizlet enables users to improve their pronunciation by listening to the pre-recorded pronunciation of the words with the help of its audio function, and other multimedia features (visuals) help the learners recall the words more easily.

2.12.2 The study tools of Quizlet. Quizlet is a free Web 2.0 application and a study program, which is also available as a mobile application, enabling users to create and study with digital flashcards and vocabulary sets with game-like learning tools, and thus providing means of incidental and intentional lexical study strategies and techniques to increase the rate of vocabulary building and acquisition. Users can access Quizlet on a computer, on smart phones by installing the application (iPhone or Android) or other devices such as iPad and tablets. This study program is very similar to the paper-based flashcard system with the word on the front and the definition at the back of the card. The website also has a new team-based game to revise the vocabulary items in class, which is called Quizlet Live. The students help each other in their teams and try to match the vocabulary items with the correct definitions. This game not only enables students to study the words again but also

helps them build soft skills by enhancing communication since everyone on the team needs to contribute. Quizlet provides students with numerous ways to study vocabulary, which can be seen in the table below:

Table 1

Features of Quizlet Website and Mobile App

Features	Web Application	Mobile Application
Flashcards	✓	✓
Spell	✓	X
Learn	✓	✓
Test	✓	✓
Match	✓	✓
Gravity	✓	X
Quizlet Live	✓	✓

As shown in the above table, some of the features, which can be used on the website, are not available for mobile use. The students who use this application on their mobile devices will not be able to use the Spell feature, or play the Gravity game. Once the students find or create a vocabulary set to study, they can make use of these seven different learning and game modes.

In the present study, all the students in the treatment group registered identifiable usernames for Quizlet and were invited to join a class page containing flashcard sets based on the selected target vocabulary items from their course book for the purposes of this research.

2.12.2.1 Flashcards. In this study mode, students can study the created sets as digital flashcards. After learners click on the flashcards icon, they see that the first definition of the first term is displayed as default. They can use the arrows to move on to the next card or click on the Play button to see the cards one after another automatically. Quizlet enables users to customize their study session to make it more motivating and interesting. The options menu allows the students to turn the audio for the pronunciation of the words on or off, and to decide whether to start with the term or the definition, (Figure 2):

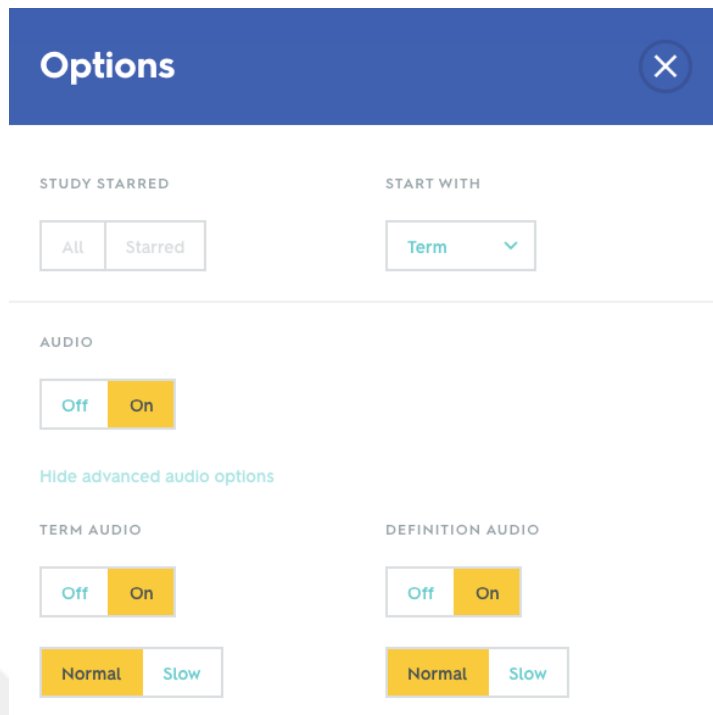


Figure 2. Options and advanced options menu

The learners click on ‘click to flip’ to see the term or the definition on the ‘back’ while studying on their computers and tap on a smart phone if they are using the application, as shown in figures 3 and 4:

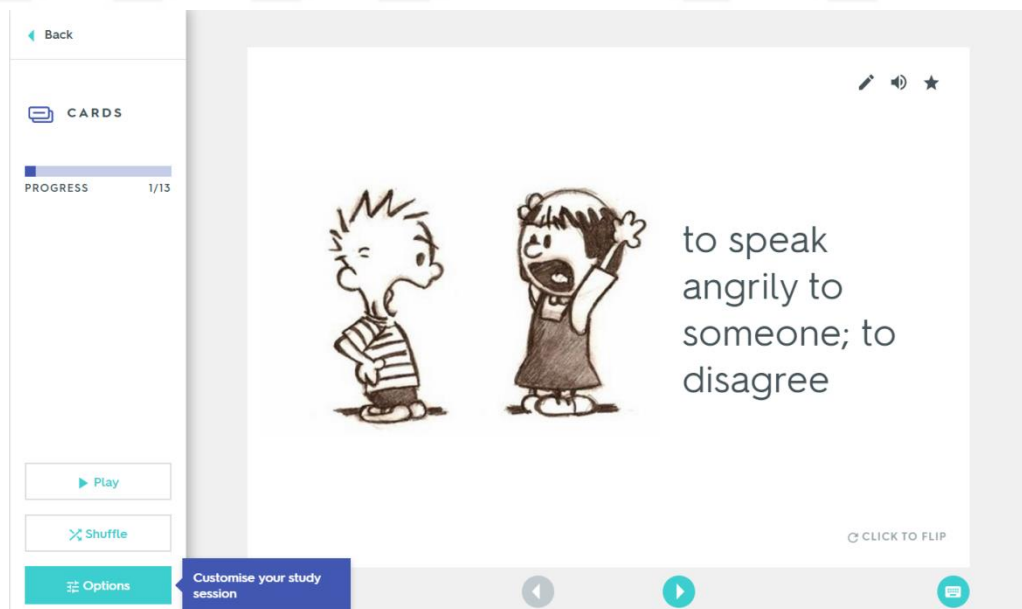


Figure 3. Screenshot of the flip motion (definition on the front)

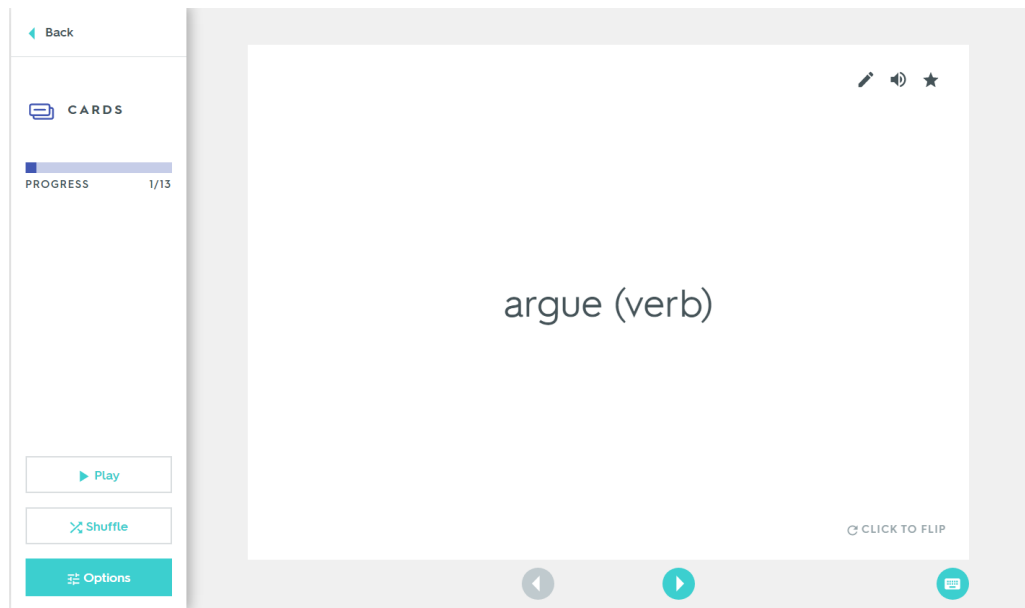


Figure 4. Screenshot of the flip motion (term on the back)

2.12.2.2 Learn. After the students have learned the terms by using the flashcards, they continue studying with the learn mode, which measures how many of the words and the definitions the students were able to learn. The students are asked to type in either the term or the definition, and Quizlet gives immediate feedback to the students' answers. At the end of each round, the numbers of correct and incorrect answers are reported through a progress checkpoint. The basics of this feature are illustrated in Figure 5 below:

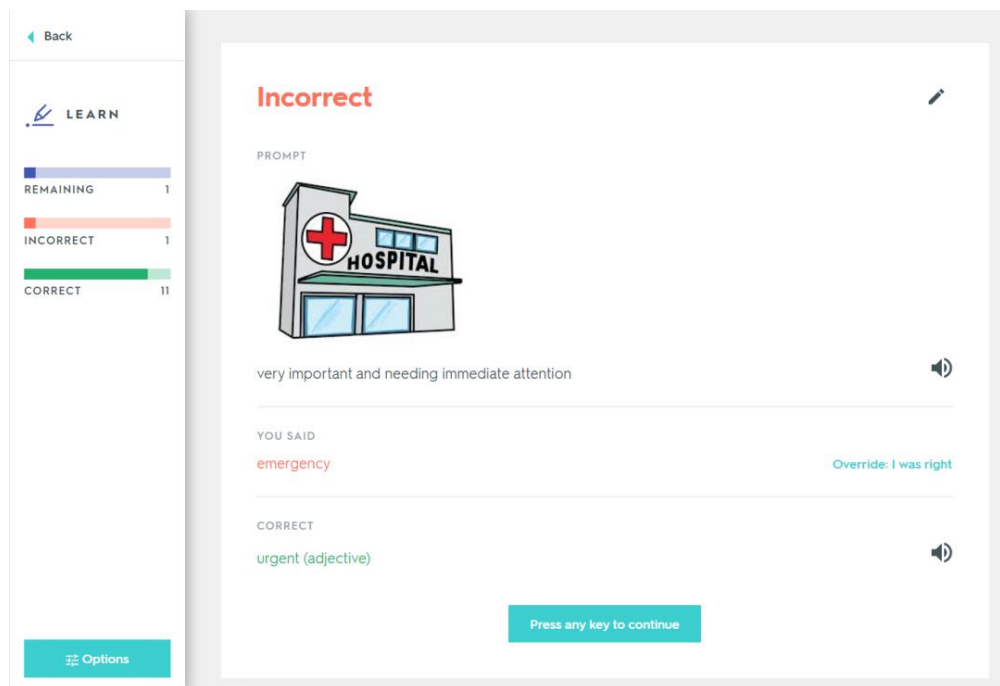


Figure 5. Screenshot of the learn mode

2.12.2.3 Spell. Spell helps the students improve their spelling by having them type the words that they hear. The students see the definitions of the terms and they are required to type the term after they listen to its pronunciation. Figure 6 illustrates the basics of this mode.

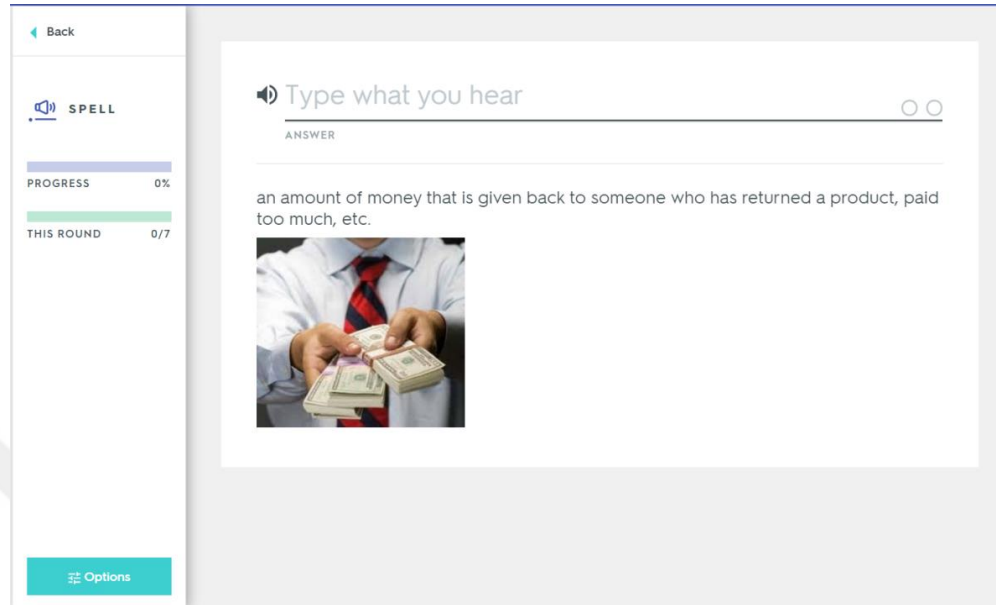


Figure 6. Screenshot of spell

This mode also serves as a great and effective tool to practice the pronunciation of the target words. If a student cannot spell a word correctly, Quizlet gives instant feedback by highlighting the missed letters and asking the student to type it again. A progress checkpoint shows the learners how well they are doing, and the total number of words they spelled correctly and incorrectly at the end of the test.

2.12.2.4 Test. Test mode is used to generate a test by using the words and definitions in a set. The students can use this mode for self-evaluation or to prepare for a vocabulary quiz or an exam. It also enables teachers to create a random test quickly with four different kinds of questions. You can choose different question types including written, matching, multiple choice, and true/false questions, some of which are shown in Figures 7 and 8.

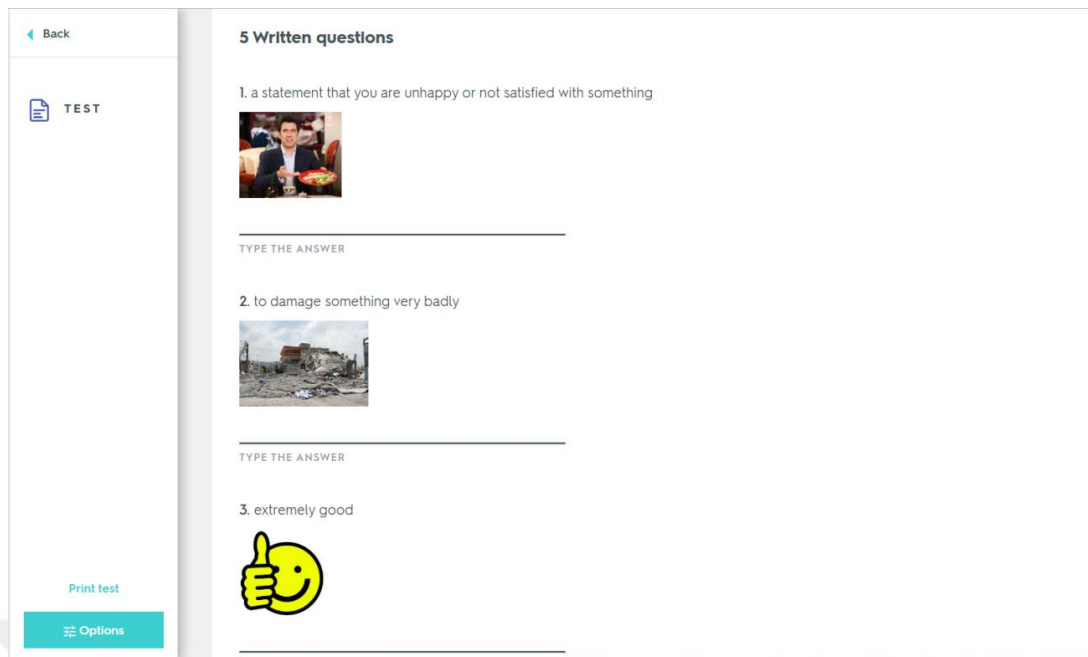


Figure 7. Screenshot of test (Written Questions)

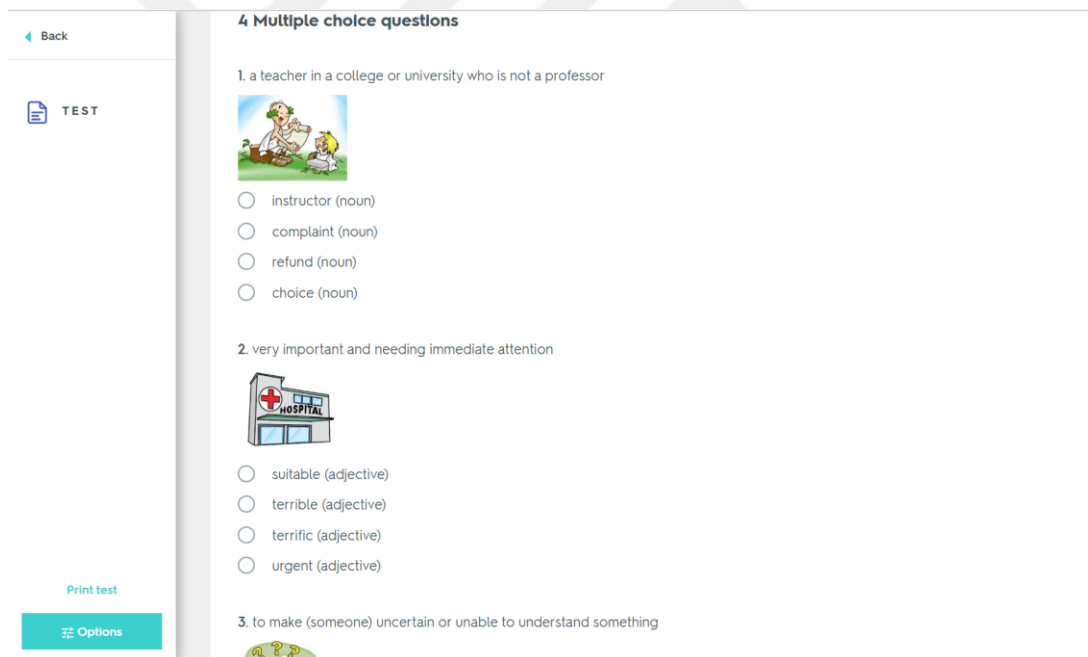


Figure 8. Screenshot of test (Multiple Choice Questions)

2.12.2.5 Match. Match mode is a matching game, which used to be called Scatter. The students try to match the terms and the definitions and make them disappear as quickly as possible because they compete with their friends and try to beat each other's scores. The students match the terms by dragging and dropping them to their correct definitions, as shown in Figure 9:

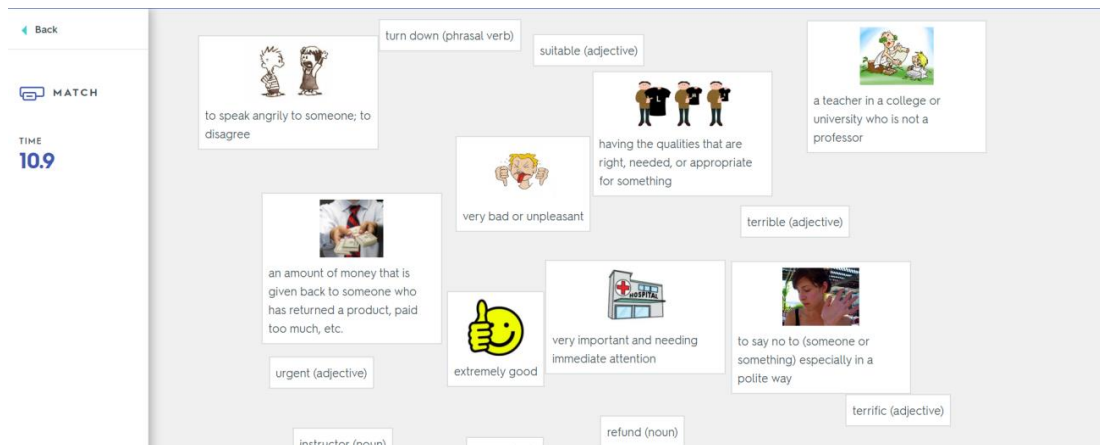


Figure 9. Screenshot of match

2.12.2.6 Gravity. The second game of the play mode of Quizlet is Gravity, which used to be called Space Race. In this game, the students need to type in the terms or the definitions correctly before the asteroid falls, in order to protect their planets. If students miss a term or definition, they are prompted to type it again before the game continues. After typing 7 words correctly, the game advances and the students move to a larger planet where the gravity increases and asteroids start falling faster. If the students cannot destroy the incoming asteroids, these asteroids come back as colored red. The game finishes when learners get a red asteroid question wrong. The following figure shows the basics of this game:

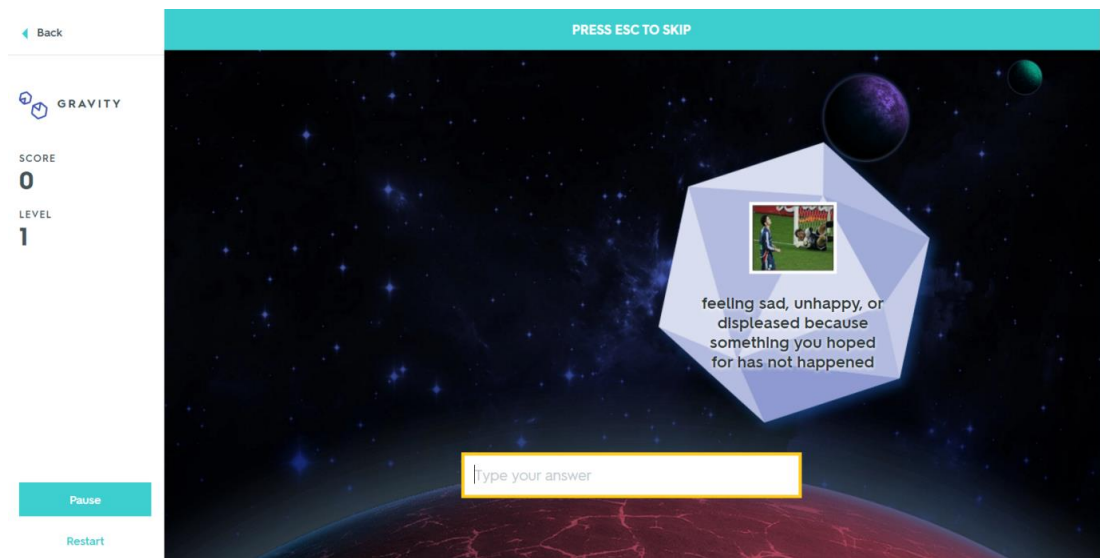


Figure 10. Screenshot of gravity game

2.12.2.7 Live. Quizlet Live game is a newly added feature to the Quizlet website. This is a whole-class team-based game, which not only enables students to revise the

vocabulary items but also helps them to build soft skills. Each student needs to have a mobile device or a laptop to play the game. The teacher creates the game based on any study sets with at least 12 unique terms. The students join the game by going to <https://quizlet.com/live> and entering the unique join code assigned for that game and then typing in their names. After that the students are put into randomized teams of 3 or 4 and help each other to correctly match all of the words in the set to the definitions in a row to win. The students in the same team have the same question but only one of them has the correct answer. This game not only enables students to study the words again and reinforces vocabulary but also helps them build soft skills by enhancing communication since everyone on the team needs to contribute. Quizlet Live game is a great tool for in-class revision since the words that the students frequently missed and the ones they got right are displayed after game is over, which enables the teacher to give immediate feedback to the students on their mistakes. Figure 11 shows the basics of the creation of this game:

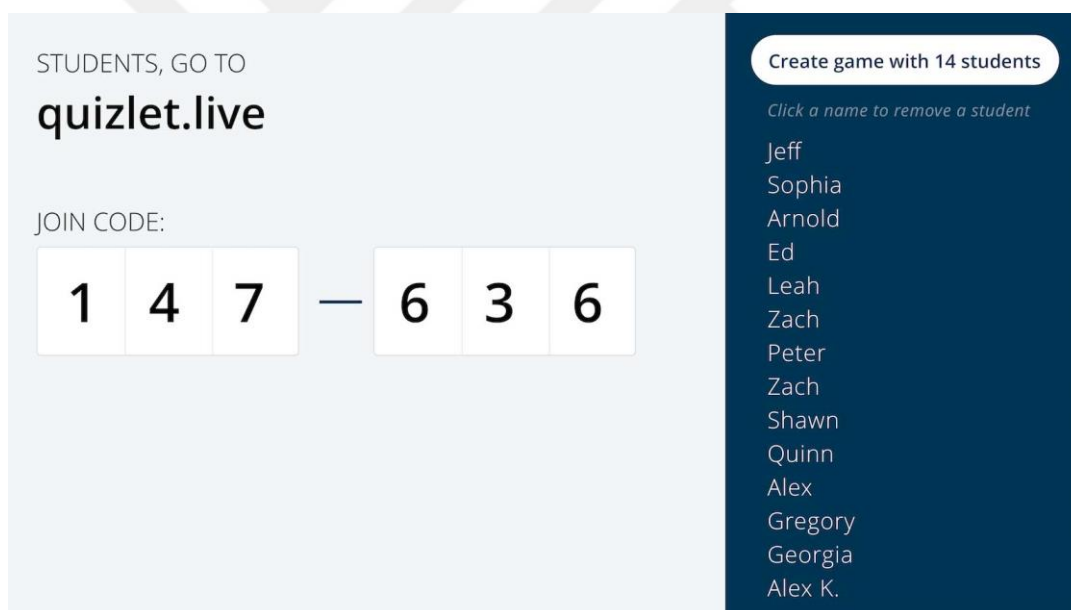


Figure 11. Screenshot of Quizlet live game

After the game starts, the teacher can show the other teams' progress to the students in real time by projecting his or her screen, as can be seen in Figure 12 below:

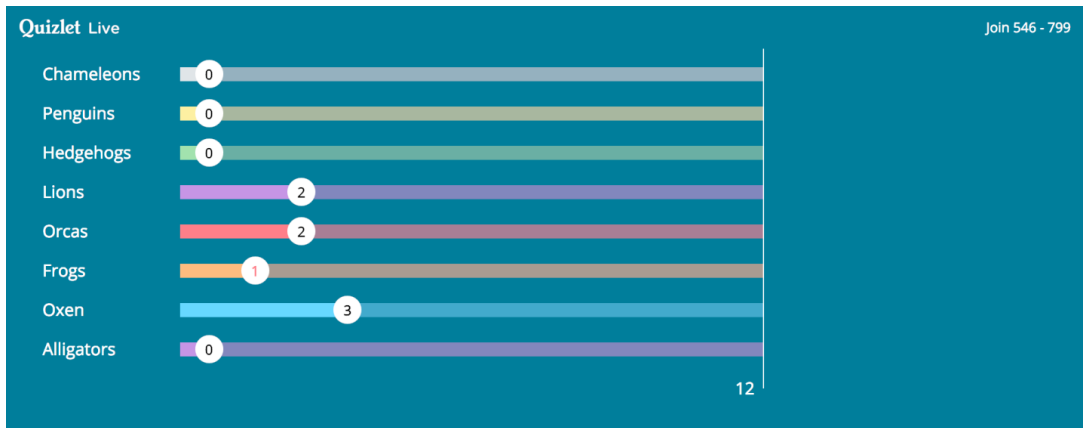


Figure 12. Screenshot of Quizlet live game (Showing the Progress)



Chapter 3

Methodology

The present study aims to analyze the effectiveness of Quizlet as a mobile tool for vocabulary learning, to compare it with the use of a paper vocabulary notebook as well as to find out the perceptions of students and their instructor about implementing such a tool while learning, teaching and practicing vocabulary in an English language preparatory program. The study was carried out at a foundation university (non-profit, private) in Istanbul, Turkey. A nonrandomized quasi-experimental research design was employed to investigate the overall effectiveness of Quizlet on vocabulary learning and teaching. In other words, this study compared the performance of two groups in vocabulary learning; an experimental group who learned and practiced target words via Quizlet and a control group who learned and practiced the same target words by keeping a vocabulary notebook.

In order for the current study to achieve its aims, the following research questions were addressed:

RQ#1. Is there any difference between using Quizlet and a vocabulary notebook in terms of the ability of students to use target vocabulary correctly?

RQ#2. How does Quizlet help students improve their autonomy in vocabulary learning?

RQ#3. What are the perceptions of students and their instructor about using Quizlet as a tool to learn, practice and teach target vocabulary?

3.1 Philosophical Paradigm

A paradigm is defined as a set of different ideas and viewpoints adopted by researchers to bring about the desired changes in order to produce knowledge. It also refers to a set of suppositions, research methods and criteria for hardships to which the community of researchers are inured (Fossey, Harvey, McDermott, & Davidson, 2002, p. 718). In order to make sure that their research design is strong in nature, researchers are required to choose a research paradigm in accordance with their opinions about the nature of reality (Mills, Bonner, & Francis, 2006, p. 2).

Quantitative and qualitative research methods are based on philosophical assumptions that differ from each other in terms of the methods that researchers

adopt in an attempt to investigate problems and ways to collect and analyze data. Quantitative research stems from positivism, whereas qualitative research originated in a completely different philosophical paradigm, which asserts that each human being lives in a crucially interconnected way with his or her world (Ary et.al, 2010, p. 23).

In a similar manner to quantitative research, the qualitative method is often employed in order to find practical solutions to a specific problem. Even though hypothesis and theory-testing are generally considered to be connected with studies that have a quantitative nature, this is not necessarily true. In quantitative research, surveys using Likert Scale technique and questionnaires designed to explore attitudes of a sample group are administered to address specific research questions. Qualitative researchers attempt to understand social phenomena and explain human behavior with regards to norms, values, and culture (Bryman, 2004). Quantitative research is mostly classified as either having experimental or nonexperimental research designs. There are various qualitative research designs and the most widely used approaches are basic interpretative studies, case studies, document or content analysis, ethnography, grounded theory, historical studies, narrative inquiry, and phenomenological studies (Ary et.al, 2010, p. 29).

In the light of the reviewed philosophical paradigms in this section, a quasi-experimental research design was adopted in the current study. This approach is mostly employed in educational research since random assignment of the participants to treatment or control groups is not possible in almost all educational settings. Therefore, the participating students in this study were already distributed into two classes by the institution, which means that this quasi-experimental study included a population of 40 students who were recruited from two intact classes of Turkish EFL learners.

3.2 Research Design

In the present study, a quasi-experimental research design (a nonrandomized control group, pretest–posttest design) was adopted in order to investigate the effect of the manipulated variable, which was implementation of the Quizlet flashcards program to store and study vocabulary. The data was collected through the use of mixed method data collection instruments, namely, qualitative data was gathered to complement the quantitative data. Based on the experimental research design, the

participants in the experimental group received treatment whereas the control group had no treatment. The participants in both the experimental and the control group were given vocabulary pre- and post- tests. In order to gather more reliable findings and gain a deeper insight into the issue, semi-structured interviews were conducted with the students in the experimental group and a post-treatment survey was administered to explore the perceptions of students about using this digital tool to store and revise target vocabulary as qualitative data collection methods. Collecting quantitative data through pre- and post- tests and qualitative data via a Quizlet online survey and semi-structured interviews enabled the researcher to analyze the results statistically and thematically to attain triangulation. This research design is illustrated in Table 2 below:

Table 2

Nonrandomized Control Group, Pretest–Posttest Research Design

Group	Pre-test	Independent Variable	Post-test
E	Y ₁	X	Y ₂
C	Y ₁	-	Y ₂

As can be seen in Table 2, in this research design, the students' vocabulary knowledge was tested through the same pre- and post-tests given to both the experimental and the control group. The independent variable was indicated with the letter X, which is the treatment or the intervention in the study.

3.3 Target Population and Participants

The participants ($N=40$) of this study, who were aged 18 and 19, were recruited from two intact Level 3 (A2+, pre-intermediate) classes. There were equivalent number of students in the treatment and the control group. The participating students were pre-intermediate level and all of them needed to reach the desired B1 standards in competency and skills achievement in order to complete Level 3 successfully. The participants of this study were 16 males, 24 females aged 18 and 19 studying English at the Preparatory Program of a foundation (non-profit, private) university in Istanbul, Turkey. In this English Language Preparatory School, as the medium of instruction is English in most undergraduate programs, all students enrolled are required to take a two-stage English Language Test, which is designed to determine their level of English at the beginning of the academic year. The students whose

scores are not at the desired proficiency level (scores lower than 45 out of 70) are placed in a level according to their test results. The students study English in the preparatory program until they complete Level 5 successfully.

The English Preparatory Program has a modular system comprising five modules from A1 level to B2, and adopts the Common European Framework of Reference for Languages (CEFR). This modular education system has been specifically designed to meet the academic needs of the students. Each module takes 8 weeks and the main aim of the levels is to enable students to reach B2 CEFR standards in competency and skills achievement. In order to complete Levels 1, 2, 3 and 4 successfully students are supposed to get at least 60 points from all the assessment components throughout the term with a minimum of 55 threshold grade from the final Achievement Test (AT).

The research context of this study was Level 3 (A2+, pre-intermediate) level classes. This particular level course lasts for 8 weeks (200 hours) in total. In this level, the students are introduced to learning strategies to help them improve their language skills in general. This course also aims at revising and reactivating the previously studied vocabulary as well as expanding the students' vocabulary knowledge by introducing them to the most frequently used words and phrases in English.

The main course book is Empower B1 (Cambridge University Press) which comprises a Workbook, CD, video book, DVD, online component, and tasks designed for this particular level. In addition, Q Skills for Success 2 Reading and Writing (Oxford University Press) book and some level specific supplementary materials are used in this level. The students do online progress tests after each Empower unit as a constituent of the weekend assignment so that they revise the words and grammar points they learned. In this English Language Preparatory School, the language instruction is mostly conducted through the use of technology and supported by continuously developing educational technologies. For example, there are Computer Assisted Language Learning Centers (CALL Centers) and the students can do the online progress tests and complete the activities that are part of their learning via these computers. By the end of this course, the students should be able to use different aspects of present, past, and future tenses and modal auxiliaries expressing advice, possibility, and necessity correctly. They will also be able to

produce sentences consisting of a main clause and one or more additional clauses as well as making comparisons.

3.4 Procedures

In this section, information regarding data collection procedures, types of sampling, data collection instruments, implementation, data analysis procedures, reliability and validity, limitations and lastly delimitations of the study will be provided.

The primary data collection techniques adopted in this study were pre- and post-tests to gather statistical data, a Quizlet online survey, and semi-structured interviews to gather qualitative data - which is crucial in order to triangulate the obtained findings. No alterations were made to the collected data and it was analyzed statistically and descriptively in an attempt to increase the validity of the research and obtain more dependable findings.

3.4.1 Data collection procedures. In this section, detailed information will be provided regarding the types of sampling and data collection instruments employed in the current study.

In the current study, a quasi-experimental research design was adopted in order to investigate the overall effectiveness of Quizlet and the impact this vocabulary study and revision tool had on students' performance and autonomy in vocabulary learning. The study was carried out upon completing the required permission procedures with the Head of English Preparatory School to collect the data. The following sections explain how the study was implemented and the data analysis procedures in detail.

The data was collected over the course of 8 weeks during the 3rd term of 2016-2017 academic year at the English Preparatory Program of a foundation (non-profit, private) university in Istanbul. The students in the experimental and the control group were taught the target vocabulary by the same instructor using Quizlet or by keeping a notebook. The following section provides detailed information about the steps of the implementation process and how the students received instruction.

For the implementation of Quizlet in the experimental group, the target vocabulary was first presented in a context to the students in both the experimental and the control group through the reading or listening texts from Empower B2 that

were included in the curriculum (see Appendix D). As the next step, the students were asked to guess the meanings of the words from the clues given in the context of each text. Once they tried to predict the definitions of these words with the help of the clues, the students in the experimental group studied the target vocabulary items by making use of the available features of Quizlet for mobile devices, namely, Flashcards, Learn, Test, and Match. They studied the selected words for each week in and outside the class time. In addition, each student spent about half an hour in two days to study vocabulary on Quizlet outside the class time by using different modes of the application, which was monitored by the teacher through the Quizlet website. They used the Learn function to learn the definitions of the target vocabulary items and used the features they liked on their smartphones for about two lessons per week in class. Towards the end of each week, on Thursdays, they played the Quizlet Live game created by using the set of words they were supposed to learn that week.

The students in the control group studied the target vocabulary with their vocabulary notebooks by using strategies like hide and retrieve, rote learning, or reading aloud (see Appendix E). They were also asked to guess the meanings of the words from the context like those in the treatment class, but after that they learned the definitions by doing exercises such as matching words with definitions and studying example sentences before producing their own sentences by using these words. Students were assigned to answer some questions by using the target words in their answers, which was checked together in class. Therefore, the students in the control and experimental groups were exposed to the vocabulary items for as close to the same amount of time as possible in and outside the classroom. Finally, the students in both groups were required to complete the vocabulary tasks in the Level 3 Booklet (see Appendix F).

3.4.1.1 Types of sampling. Assigning the population elements to treatment or control groups randomly is difficult and mostly not possible in many research situations (Ary et.al, 2010, p. 155), which is also the case in this study. For this reason, the researcher employed nonrandom procedures for selecting the participating members of the sample, and nonprobability sampling was used in this study. Therefore, a convenience sampling procedure was adopted in this quasi-experimental study and the research included a population of 40 students who were

recruited from two intact Level 3 course classes of foreign language learners who were studying English for academic purposes at the Preparatory Program of a foundation (non-profit, private) university in Istanbul, Turkey.

3.4.1.2 Data collection instruments. In order to examine the effectiveness of Quizlet on the students' performance and autonomy in vocabulary learning and also find out the perceptions of students as well as their instructor's perceptions about implementing this mobile tool while teaching, learning and practicing target vocabulary, data was gathered from multiple tools including, pre- and post- test, Quizlet online survey, semi-structured interviews and reflective journals. The following section describes each tool in detail.

3.4.1.2.1 Pre- and post- test. In the present study, the effectiveness of Quizlet for students' performance in vocabulary learning was examined by analyzing and comparing the data elicited through the differences in the pre-and post- test scores of the experimental and control groups. The pre-test, which was prepared with 20 randomly selected words from the target vocabulary items by using the test function of Quizlet, consisted of 20 items in total (5 written, 5 matching type, 5 multiple choice type questions, and 5 True/False questions) (see Appendix A). The test was created in a randomized way with the help of the test feature of Quizlet. As there were 20 test questions, the overall test was graded out of 100 (each question was 5 points).

Firstly, the test was administered before the students were introduced to the target vocabulary to find out whether they were familiar with these words or not. After the pre-test, the students studied the target words by using Quizlet in the experimental class and by keeping vocabulary notebook in the control group. At the end of the 8-week period, the two groups were given a post-test of the same words from the pre-test. The obtained scores were used to analyze the effectiveness of Quizlet on increasing student achievement in learning these words. The students in both the experimental group and the control group were given a printed (hard) copy of the same quiz.

3.4.1.2.2 Quizlet online survey. After the implementation of the post-test, the students in the treatment group were asked to fill in the Quizlet online survey (see

Appendix B) to find out their perceptions about learning and practicing target vocabulary via this mobile tool as well as to explore how Quizlet helped them improve their autonomy in vocabulary learning. The survey was based on Bauer-Ramazani's (2015) study that sought to investigate students' perceptions on the effectiveness of Quizlet, as well as how it helped them to become more autonomous vocabulary learners and how learning new words via Quizlet affected their overall motivation and engagement while studying vocabulary. The survey had 8 items and was based on a 5-point Likert type scale ranging from "strongly agree" to "strongly disagree". The survey items focused on how accessible Quizlet was and whether Quizlet enabled them to study more frequently than a vocabulary notebook, which is not as accessible as a mobile application out of class. The students were given items investigating their perceptions about the ease of use and enjoyability of learning new words on Quizlet. The first item explored the students' perceptions of practicality of studying vocabulary with Quizlet. The second item was related to whether Quizlet is an enjoyable tool to use for studying vocabulary. The second and the third item were aimed at exploring whether Quizlet increased the students' interest in studying vocabulary or not and their feelings of improvement regarding their ability to learn vocabulary. Item 4 explored whether the students like Quizlet because they can access it to study vocabulary on their own devices. Additionally, whether students prefer Quizlet for studying vocabulary rather than keeping a vocabulary notebooks or not was also investigated.

3.4.1.2.3 Semi-structured interviews. To complement the quantitative data obtained from the pre- and post- test as well as the online survey, semi-structured interviews were carried out with 15 randomly selected participating students from the experimental group to gather in-depth qualitative information about their perceptions on learning and practicing target vocabulary using Quizlet. The interviews were conducted in Turkish to make sure that the students could answer all questions easily and comfortably. Each student was asked four questions in total related to their preferences, perceptions and feelings about learning and practicing vocabulary using Quizlet. Specifically, the questions attempted to find out the preferences of students about using Quizlet, whether they would like to continue learning vocabulary via Quizlet, which function they liked the most, and if Quizlet helped them expand their vocabulary competence (see Appendix C).

3.4.1.2.4 Reflective journal. A reflective essay illustrates what a person thinks on a certain subject or some experience, including reactions, feelings, thoughts and general understanding and analysis of an issue, in a personal way. Dewey (1993) considers reflection a special form of problem solving, thinking to resolve an issue, which involves active chaining, and a careful ordering of ideas linking each with its predecessors.

In this study, to explore the teacher's perceptions about the use of Quizlet to teach and practice vocabulary, the teacher of the experimental group, who was also the researcher of this study, kept a reflective journal for a period of 8 weeks. He noted down his overall perceptions about this particular mobile tool after each course (200 hours in total).

3.4.2 Data analysis procedures. For the purposes of this study, in order to analyze the data for the first research question, the pre- and post-test scores of the experimental group who studied target vocabulary using Quizlet were analyzed quantitatively through the Statistical Package of Social Sciences (SPSS) 20.0 version. Specifically, a Friedman ANOVA test was carried out to measure the impact of Quizlet on students' performance in vocabulary learning. In addition, the mean scores obtained through the pre- and post -test were used to make a comparison between two groups of participants to examine their ability to use the target vocabulary correctly.

To answer the second research question, which aimed to explore how Quizlet helped students to improve their autonomy in vocabulary learning, the data was obtained from the Quizlet online survey, which was analyzed quantitatively again using SPSS. Before the survey was administered, the internal reliability was checked by calculating the Cronbach's alpha score.

Finally, in an attempt to answer the last research question related to the perceptions of students and their instructor about learning, practicing and teaching target vocabulary using Quizlet, data from the semi-structured interviews and reflective essays was analyzed using NVivo 11 software. First, the data gathered from the two qualitative tools was transcribed by the researcher. Then, the responses to each question were identified and categorized under a theme related to the content to make sense of the obtained data. Finally, the connection between the emerging themes was found and the comparison between the participants was made. To help

researcher to visualize the conceptual framework a mind map was created and updated as thinking evolved.

3.4.3 Reliability and validity. Validity and reliability are crucial factors to take into consideration while evaluating the trustworthiness of the results obtained for a study. Validity is usually referred to as “the extent to which scores on a test enable one to make meaningful and appropriate interpretations” (Ary et.al, 2010, p. 224). On the other hand, the reliability of a test is the degree of consistency with which it measures the intended outcomes (Ary et.al, 2010, p. 236).

Validity of a research mostly depends on the principles that are used to decide the quality of the different parts of our research design and methodology (Trochim, 2002). Roberts (1982) states that both qualitative and quantitative research that aims to be of good quality and pave the way for further research must provide required support for the findings of the study.

Mertler and Charles (2005) explore validity of a study through two factors: internal validity and external validity. Internal validity is defined as the validity of the conclusions about whether the changes that occurred in a dependent variable were caused by the independent variable(s) in a study (Ary et.al, 2010, p. 272). Internal validity can be increased in an experiment by controlling for the effects caused by some extraneous factors. These factors are referred to as threats since if they aren't controlled, they may interfere with the produced effect of the treatment. In order to establish and maintain internal validity, a researcher needs to make sure that these extraneous variables are controlled: history, testing, maturation, selection bias and unstable instrumentation (Mertler & Charles, 2005). As this was an 8-week long course, it was quite challenging to monitor the process closely and effectively. Nevertheless, the researcher tried to treat and make the treatment and the control classrooms as similar as possible. In this study, the researcher reduced the effects of internal threats in the following ways.

To begin with, history effect was minimized by administering pre- and post-tests concurrently. The participants in the experimental group and the control group were tested at the same time and the period of time between the pre- and the post-tests was not long, therefore history threat was minimum since major political or economic events or changes didn't happen over the course of the study. Additionally, testing could have been another threat that needed to be controlled by the researcher,

which means obtained scores of the pre-test could have influenced the outcome of the post-test. To put it in another way, the participants may have performed better on the post-test after they took the pre-test because they learned the assessed subject matter in the pre-test. However, this threat is less likely to have happened as all the components of the tests were identical, and it is more likely that the pre-test could produce similar effects on both groups considering the period of time between the administration of the pre- and the post-test. Additionally, the students were not given any feedback on how well they did on the pre-test, therefore they were not able to improve their vocabulary knowledge regardless of any treatment.

Another internal threat to be taken into consideration is maturation, which is defined as the physiological and psychological changes that might occur within the participants in time (Ary et.al, 2010, p. 274). The effects of the maturation threat in this study were minimal since all of the students in this study were aged between 18 and 19, and almost all of them had similar socioeconomic backgrounds.

In addition to this, selection bias, which refers to the assignment of the high-achieving students in the treatment group and the students with average learning abilities and skills to the control group, is also a threat to the internal validity of a study. The participants of this study were the students of the two intact classes of English learners, and their English levels were taken into consideration by the institution while assigning them to two groups. This means that the students in both groups had the same level of ability and similar study skills regarding the use of the English language. Although the researcher wasn't able to assign the participants randomly, the institution randomly placed the students who have equal levels of English in two classes, and in this way the effects of this threat were controlled for in the present study.

In order to control the last internal threat, unstable instrumentation, and in an attempt to minimize the effects caused by the different teaching styles which can have an impact on the findings of the study, the same teacher (the researcher himself) taught the same target vocabulary items both to the Quizlet and the Vocabulary Notebook group and administered the data collection instruments. Furthermore, no changes were made in the instruments throughout the study both in the experimental and the control group.

Along with the internal validity, a researcher needs to ensure external validity, which refers to the extent of the generalization of the findings of a research study to

other subjects and settings (Robson, 2002). In this study, convenience sampling had to be used, therefore the findings need to be interpreted in an extremely cautious way to make generalizations to larger populations. Nevertheless, the findings of the current study could be generalized to subjects with similar English levels and socioeconomic backgrounds in similar settings.

Furthermore, it should be noted that the validity of the research might still be questionable even though the researcher minimized the effects of these threats or eliminated some of these factors jeopardizing the validity of the research. Some possible causes of this can be listed as the differences in students' personality traits, the differences in the learning styles of the students, differences in aptitude, and most importantly, the Hawthorne effect.

In the present study, the reliability of the measuring instruments, which refers to the consistency of the measuring devices, was ensured by taking "the effect of error on the consistency of scores" into consideration (Ary et.al, 2010, p. 237). Random errors are the main problems theoretically threatening the study and interfering with the reliability. The main sources of random errors that may lead to inconsistent scores are "the individual being measured, the administration of the measuring instrument, and the instrument" (p. 237). The errors that may be caused due to the administration of the measuring instrument were minimized in this study since the measuring devices were administered and evaluated by the same person, namely the researcher himself. The scoring procedure was objective and also standardized as each question in the pre- and the post-test only had one correct answer.

Another source of error is the data collection instrument used in the study. Ary et al. (2010) assert that briefness or shortness of a test is a primary cause of unreliable obtained scores. To put in another way, a pre- and post- test designed to collect data needs to be comprehensive and it should not be too short or too easy to measure the desired subject matter.

Based on these overviews, in the current study, the pre- and post-test were created by using the test function of Quizlet. It comprised four different sections with four different question types and randomly selected vocabulary items from each week. Therefore, errors arising from the instrument were minimized. In addition to this, a pilot study was conducted in order to check the reliability of the test and

Cronbach's alpha score was found to be .78, which shows that the test has a high level of statistical reliability (Ary et al., 2010).

3.5 Limitations

Although the current research study has reached its aims, there are some limitations and shortcomings which should be taken into consideration. The first limitation to be considered was the number of the students. The students who agreed to participate in this study ($N=40$) could be insufficient to draw substantially valid conclusions about the effectiveness of Quizlet on students' performance in vocabulary learning in the EFL classroom.

Additionally, since this study was carried out at an English Language Preparatory School of a foundation (non-profit, private) university in Istanbul and all of the students were pre-intermediate level learners of English enrolled in the same university, the findings of the research could not be generalized to the other contexts and settings within Turkey. If this study is replicated at a different university in a different city in Turkey, the results will probably differ. For that reason, to obtain more reliable and valid findings, similar studies should be conducted with more participants and with students who have different skills at different English levels.

Another limitation of the study was the time constraints in the curriculum. The present study was conducted over the course of eight weeks. However, had such a research study been carried out over a longer period of time, the obtained results could have been more generalizable and external validity could have been sustained.

Lastly, it should be noted that although this study focused on the students' performance in vocabulary learning and whether Quizlet helped them become more autonomous learners or not by considering and making some comments of the students' and teacher's perceptions of learning and teaching experience, no analysis was made in terms of the completion of the required assessment outcomes of the course.

Despite these weaknesses and limitations, this study contributes to the growing body of research in the field of vocabulary instruction by investigating the effectiveness of integrating a mobile tool in ESL classrooms. Therefore, this study may inspire other researchers to employ such a design to make a comprehensive study to find out the impact and effectiveness of this mobile tool for EFL students

and teachers at the university level, as this study adopted a quasi-experimental design and would provide insights into the subject for further research in EFL classes.

3.6 Delimitations

Delimitations of educational research refer to the boundaries that the researcher decided to set for the purposes of the study (Mertler & Charles, 2005, p. 66). In other words, they are the choices the researcher made in order to investigate a phenomenon. In the present study, the researcher limited the scope of the study by defining several purposeful boundaries.

To begin with, this study was specifically conducted with English preparatory program learners since most of the studies carried out in this field aimed at investigating the effectiveness of mobile learning tools on high school students and people who study English for different purposes. The participants in this study were studying English for academic purposes and the main motivation factor for these students was to finish this program successfully in one year. Moreover, the main purpose of the program was to enable students to acquire the four language skills in such a way that they became proficient users and communicators of English both fluently and accurately not only in their academic studies but also in their social lives. Therefore, they were more motivated and enthusiastic to learn the target vocabulary items.

Additionally, the researcher decided to use Quizlet in this study for a number of reasons. First of all, this study was carried out in an attempt to investigate the effectiveness of a flashcard studying and teaching tool preferred by a great number of learners and teachers, and Quizlet is one of the most popular and free digital flashcard applications with over one million active learners. Secondly, it serves as a more entertaining and useful tool since it has more study tools and game features than most of the available programs. Moreover, the test function of this tool also helped the researcher to generate a very comprehensive test, which was used as a data collection tool for the purposes of this study. For these reasons, this tool was selected in the present study and used in the methodological procedures, too.

Last but not least, even though the teacher and the students used the Quizlet website on a computer to play the Gravity game and Quizlet Live game, the studies carried out in Computer-Assisted Language Learning field were not thoroughly explored in the literature review section, because all of the participants in this study

downloaded Quizlet application and mostly used the available features on a smartphone rather than a computer.



Chapter 4

Results

In this section, the findings of this research are analyzed based on pre-test and post-test results, answers to the survey items, reflective journal and semi-structured interviews. First, overall differences between the test scores of the two groups are examined using Friedman's ANOVA test. Then, the responses to the online Quizlet survey items are analyzed in different categories in order to explore the perceptions of the students. Finally, the data collected from the semi-structured interviews and reflective journal are presented to identify the perceptions of the students and their teacher about using Quizlet as a mobile tool to teach and learn target vocabulary in preparatory classes.

4.1 The Differences between Quizlet and Notebook on the Ability to use Target Vocabulary Correctly

As for the first research question on whether there was any difference between Quizlet and vocabulary notebook regarding the ability to use target vocabulary correctly the mean scores of the pre- and post- tests of the two groups of participants (experimental vs control) were comparatively analyzed. The following figure presents the descriptive statistics:

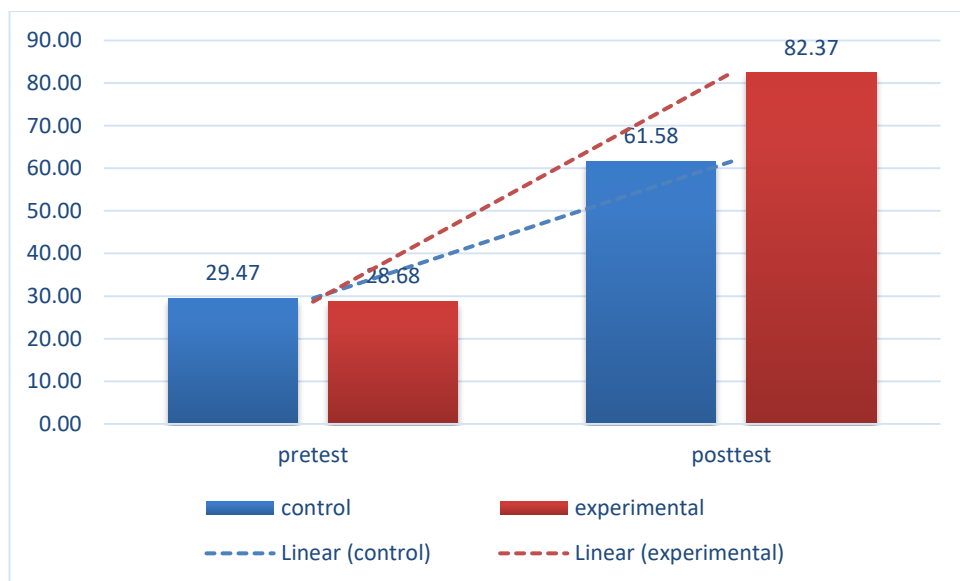


Figure 13. Comparison of the mean scores for control and experimental groups

As can be clearly seen in Figure 13 above, there was a substantial difference between the average grades of both groups. Specifically, the students in the experimental group outscored the control group by an average of 21 points out of 100, which was calculated by subtracting the mean score of the post-test for the experimental group (82.37) from the mean score of the post-test for the control group (61.58). Specifically, even though keeping a vocabulary notebook enhanced the students' performance in vocabulary learning to certain degree (32.11 points), the difference in the experimental group was much higher (53.69 points) which showed that Quizlet was a more effective tool to learn and revise target words.

In an attempt to support the findings of the first research question related to whether using Quizlet as a tool to store and practice vocabulary had an impact on students' performance in vocabulary learning, the pre- and post- test scores were analyzed through Friedman's ANOVA tests. These tests were implemented for the purpose of finding out whether the increase in the pre-test and post-test results was significant or not. The following table presents the results:

Table 3

Friedman ANOVA Test Results for the Impact of Using Quizlet on Students' Performance in Vocabulary Learning

Groups	Pre-test				Post-test				N	χ^2	df	p
	M	SD	Min	Max	M	SD	Min	Max				
Exp	28.68	13.42	10	60	82.37	10.84	60	95	19	19.00	1	.000
Control	29.47	11.16	15	60	61.58	22.61	30	95	19	14.22	1	.000

*p<.001

As shown in the Table 3 above, there was a significant difference between the pre- and post- test scores of the students who used Quizlet over the course of eight weeks. The increase in the test scores were significant in the experimental group ($\chi^2 = 19.00$, $p < .001$), which shows that using Quizlet had a positive impact on learning target vocabulary items. The findings also indicated that the changes occurred in the test scores over the course of eight weeks were significant in the control group ($\chi^2 = 14.22$, $p < .001$). In brief, both groups made substantial progress regarding vocabulary knowledge over time.

4.2 The Impact of Quizlet on Promoting Learner Autonomy in Vocabulary Learning

As for the second research question of this study, which aimed to find out how using Quizlet helps students improve their autonomy in vocabulary learning, data was gathered from the Quizlet online survey. The participating students were specifically asked to what extent they agreed with these three items: Quizlet increased my interest in studying vocabulary (item 2), I like Quizlet because I can access it to study vocabulary on my own devices (item 4), and I feel confident that I know the vocabulary after studying with Quizlet (item 8).

Before the survey including these items was administered, the Cronbach alpha score was calculated to ensure the reliability. The items in this category are shown in Table 4 below:

Table 4

Quizlet Survey Items to Explore Autonomy in Vocabulary Learning

Quizlet enables students to become more autonomous vocabulary learners.	Items
	2. Quizlet increased my interest in studying vocabulary.
	4. I like Quizlet because I can access it to study vocabulary on my own devices.
	8. I feel confident that I know the vocabulary after studying with Quizlet.

Cronbach Alpha= .83

As the Cronbach's alpha level was .83, it could be stated that it was at the acceptable value (.70 to .95) (Tavakol & Dennick, 2011). After the reliability score was estimated, the frequencies and percentages of these items were calculated and reported in the table below:

Table 5

Responses to the Quizlet Survey Items Exploring Autonomy in Vocabulary Learning

Items	Response	Frequency	Percentage
2. Quizlet increased my interest in studying vocabulary.	Strongly Disagree	-	-
	Disagree	-	-
	Neither Agree Nor Disagree	-	-
	Agree	5	25
	Strongly Agree	15	75
	Total	20	100

Table 5 (cont'd)

Items	Response	Frequency	Percentage
4. I like Quizlet because I can access it to study vocabulary on my own devices.	Strongly Disagree	-	-
	Disagree	-	-
	Neither Agree Nor Disagree	1	5
	Agree	5	25
	Strongly Agree	14	70
	Total	20	100
8. I feel confident that I know the vocabulary after studying with Quizlet.	Strongly Disagree	-	-
	Disagree	-	-
	Neither Agree Nor Disagree	3	15
	Agree	5	25
	Strongly Agree	12	60
	Total	20	100

As shown in the table above, for item 2, the students were asked to report whether Quizlet boosted their interest in studying vocabulary. After using Quizlet to learn target words and study out of class time for 8 weeks, all of the students agreed (25%) or strongly agreed (75%) that this application increased their interest in studying vocabulary on their own devices, which can be seen in Table 5.

In addition, survey item 4 was aimed at exploring whether accessing Quizlet on their own mobile devices increased students' autonomy in vocabulary learning. Almost all of the students agreed (25%) or strongly agreed (70%) that they liked Quizlet since it could be accessed through a mobile device in order to study vocabulary. The students were able to learn and study target words independently on the Quizlet application, which made them more autonomous vocabulary learners. They were also taught how to create their own sets by using Quizlet, and some students created new flashcard sets for other words that they were supposed to learn but not included in this study. This also indicated that using Quizlet on their own devices made them more autonomous learners in terms of learning the target vocabulary items and revising for vocabulary tests. These findings revealed that the students became more autonomous after using this tool.

Finally, the responses to the item 8 revealed that more than half of the students (60%) strongly agreed that Quizlet increased their confidence in terms of learning the words. The majority of the rest of the participants (25%) agreed that they also felt confident after studying with Quizlet.

Similarly, quite a number of the students in the experimental group reported that they study vocabulary by using Quizlet on the metro bus and bus while commuting. The students responded that they were able to type more easily on their mobile devices on public transportation, which is another reason why they prefer Quizlet to study vocabulary.

In brief, the obtained findings revealed that Quizlet enabled students improve their autonomy in vocabulary learning. They enjoyed studying vocabulary with Quizlet, and they also agreed that studying vocabulary using this application made them feel more confident. Finally, it is obvious that the students' interests in studying vocabulary on their own out of class also increased after using Quizlet, which was another indication of autonomy in vocabulary learning.

4.3 The Perceptions of Students and Their Instructor of using Quizlet as a Tool to Learn, Practice and Teach Target Vocabulary

To explore the perceptions of the students and their instructor about learning, practicing and teaching target vocabulary through Quizlet, which is the last research question of this study, data was collected through students' semi-structured interviews and teacher's reflective journals. The following sections present the results of the two groups of participants.

4.3.1 The perceptions of students about using Quizlet to learn and practice target vocabulary. In order to find out the perceptions of students about using Quizlet to learn and practice target vocabulary, semi-structured interviews with 15 randomly selected students from the experimental group were conducted and analyzed using the qualitative data analysis software NVivo 11. The interviews were recorded and transcribed into written form so that it would be easier to analyze. Specifically, each student was asked 4 questions related to their experiences using Quizlet to learn and practice vocabulary.

To begin with, the students clearly stated that they enjoyed using Quizlet as they found it accessible, easy to use and entertaining. The following excerpt clarifies this finding:

I like Quizlet a lot, because the game features are entertaining and I can access it everywhere on my smart phone. (Student 1, Semi-structured interview data, 26th March, 2017)

This quotation is only one of the answers given that represents the overall perceptions of the other participants. The words that were mostly repeated in the students' responses were connected to the entertaining features of Quizlet. The most frequently found words were 'enjoy, fun, game, entertain', which were repeated 11 times in total. Almost all of the students who were interviewed reported that Quizlet contributed to their learning a lot and it was a fun application to use.

Another frequently given answer was that Quizlet promoted vocabulary learning. Most of the students stated that they were able to learn the words in a fast and an easy way using Quizlet. The words 'learn, easily, easy, fast' recurred 16 times in the responses of the participants as emphasized in the comment below:

I feel that I can learn words easily when I study vocabulary on Quizlet. (Student 2, Semi-structured interview data, 26th March, 2017)

On the other hand, while most of the comments by the students about using this mobile application were positive, there were a few students who felt a bit negative. As it was analyzed via NVivo, two students repeated the word 'distract'. Some of the participants particularly reported that studying vocabulary on a smart phone was somewhat distracting for them since their friends texted or sent instant messages while they were studying on the application as illustrated in this quotation:

I don't want to continue using Quizlet to study vocabulary in the future because my friends send me messages while I'm studying, and I get distracted. (Student 4, Semi-structured interview data, 26th March, 2017)

In conclusion, the findings of the semi-structured interviews revealed that Quizlet serves as a very useful tool to store and revise vocabulary, which also enables students to expand their vocabulary knowledge by entertaining them and taking a relatively shorter time than the other vocabulary studying methods and strategies.

4.3.2 The perceptions of the instructor about using Quizlet to teach target vocabulary. To explore the teacher's perceptions about the use of Quizlet to teach target vocabulary, the teacher kept a reflective diary for a period of eight weeks (40 days, 200 hours of vocabulary teaching in each group), which is summarized in the following part of this study.

To begin with, the teacher created sets and added them to the class to share them with the students. Creating vocabulary study sets is very simple and it is certainly not a time-consuming task. The teacher used the unpaid teacher account and this allowed him to choose visuals for the vocabulary items from the suggested images, which are about eight or nine pictures taken from Flickr. However, the paid version lets the users upload their own pictures for the terms. Finding an appropriate picture for most of the words was very simple; however, for some abstract nouns or feelings, it was harder to assign a suitable visual. The excerpt below shows the teacher's opinion about this minor problem:

I created the sets for the following eight weeks to use with my students and it was not a difficult task to do. The only problem I had was finding pictures for some words like 'urgent, complaint, etc.', however it was very easy to find a suitable image for the rest of the words. (Teacher, Reflective journal data, 21st March, 2017)

Furthermore, before the students started using the application, the teacher taught them how to sign up and join the class, and how to use each function of Quizlet. He reported that the students didn't have any difficulties in signing up since they were able to use their Google or Facebook accounts to become a member. After the students learned how to use the different features of the application, they downloaded it from Play Store or App Store, based on the operating system of their mobile devices, and they were given twenty minutes to study the first set created by

the teacher and explore each function briefly. Finally, the teacher stated that the students seemed quite happy while they were studying the set and they all stayed on task during this period, which can also be seen in the comment below:

The students seemed quite excited about using the application and they all enjoyed the Audio function, which helped them to learn the correct pronunciation of the words. Seeing my students having fun and learning at the same time made me feel very happy. (Teacher, Reflective journal data, 21st March, 2017)

After the students studied the first set on their own by exploring each available function of Quizlet on a mobile device - Cards, Learn, Match, and Test - the teacher demonstrated how to use the Spell and Gravity features that are only available on the Quizlet website. Each student was given a chance to use the Spell feature and play the Gravity game at least once. They all enjoyed using these features too, they especially liked the Gravity game since the task in this game is really an exciting one, which is to protect their planets from incoming asteroids (e.g. the definitions of the target words) by destroying them (typing the terms in correctly) before they reach the ground. The following excerpt describes how the students' and the teacher felt while playing this game:

The students loved playing the Gravity game since it adds game features and time pressure to typing the words correctly and creates an exciting atmosphere in class. I felt very happy because my students were learning target words by trying to beat the clock in this game and entertaining themselves at the same time. (Teacher, Reflective journal data, 21st March, 2017)

For the last ten minutes of the lesson, the students played Quizlet Live game, which is a newly added feature to the Quizlet website. This is a whole-class team-based game, which not only enables students to revise the vocabulary items but also helps them to build soft skills. Each student needs to have a mobile device or a laptop to play the game, and they all played the game on their smartphones on that day. The teacher created the game by using the same set that the students had just studied and

the students joined the game by going to <https://quizlet.com/live> and entering the unique join code assigned for that game and their names. The students were distributed to randomized teams of 3 or 4 and worked together to match all of the words in the set to the definitions correctly in a row to win. The students in the same team have the same question but only one of them has the correct answer in this game. It reinforces the vocabulary and enhances communication among the students. The following excerpt shows how much the students and the teacher enjoyed this new game:

At first, the students weren't able to understand how to play the game even though I explained the logic behind it. They had difficulties in realizing that they needed to work together to find the term that matches the definition, since none of them has all of the answers. However, after a very short time they were all enjoying themselves and trying to win the game. (Teacher, Reflective journal data, 21st March, 2017)

Moreover, the teacher used Quizlet over the course of the following weeks to teach the selected words for this study. The students were usually presented with the vocabulary items through a listening or a reading text and they were given some time to guess the meanings from the context before they start learning them on Quizlet. The students were able to guess the definitions of some words by giving the Turkish meanings, but they were not able to explain them in English. The teacher stated that the students were able to define the words in English after studying them on Quizlet and this shows that they can learn the English definitions easily with the help of different functions of this application, which is also displayed in the following quotation:

The students were able to guess the Turkish meanings of some of the target words like 'development' since they already knew the meaning of the verb form of this noun. However, they didn't know the English definitions of these words. After they were given fifteen minutes to study these words, they were able to define the words in English, this really made me happy. (Teacher, Reflective journal data, 21st March, 2017)

Besides, the students were also told to revise the vocabulary items they learned out of class time, i.e. at home, on public transport, or during the two-hour break time at school, on their mobile devices or on a computer. The unpaid version of Quizlet and its features were utilized for this study and it was not possible for the teacher to track the class progress, view each student's activities on the application, or obtain a class-wide data to see which terms missed most often or how well the students learned the terms, which are some of the features of an upgraded teacher account. Nevertheless, the teacher was able to open each student's profile and check individual activities of the students for the assigned sets in the unpaid account. The free account also allowed the teacher to see the top scores for the Match and Gravity game and check on the students' activities to see whether they completed Learn or Spell out of class. The students' progress was checked by the teacher throughout this study and they were asked to spend at least half an hour every day out of class time to revise the words they learned. The following excerpt also shows how the teacher felt about this issue:

It might be more convenient to get a paid teacher account, but I am still able to track my students' individual progress in and out of class. Today, I got very happy upon seeing that almost all of my students completed the Learn and Spell, and most of them played the Match and Gravity games several times to beat each other's scores. (Teacher, Reflective journal data, 21st March, 2017)

In spite of these differences between the paid and the unpaid teacher account, Quizlet is still a useful and effective tool to expand the students' vocabulary knowledge by motivating them to study more and make even the less interested students eager to learn the target words with the help of games. It is obvious that they favor Quizlet Live game over Gravity or Match, as shown in the following excerpt:

The lessons start very early and most of the students feel sleepy. Today, I was supposed to teach some target words in the first lesson, and the students didn't seem interested in the reading that presented the target vocabulary items. However, when I told them to start studying the set and

that we were going to play the Quizlet Live game afterwards, they got happy and motivated. (Teacher, Reflective journal data, 21st March, 2017)

To wrap up, the comprehensive analysis of the findings of the reflective journals revealed that utilizing Quizlet as a mobile tool is favored by the teacher over vocabulary notebooks to introduce or teach the target words to the students. Additionally, the teacher found this tool very helpful since it turns in-class revision of the target lexical items into a more entertaining game for the students. According to the findings, it is obvious that Quizlet is an effective tool that facilitates vocabulary learning in language classroom.



Chapter 5

Discussion and Conclusions

The current research study investigated the impact of Quizlet on students' performance and promoting learner autonomy in vocabulary learning. Additionally, the students' perceptions regarding the usefulness of this mobile application to foster their performance in vocabulary learning and the perceptions of their instructor of using Quizlet to teach vocabulary were explored. Data was gathered from students' online survey and their pre- and post-test scores as well as the teacher's reflective journal. In the following section, the findings related to each research question are discussed referring to the reviewed literature. Next, pedagogical implications based on the findings will be presented and suggestions for further research studies will be provided.

5.1 Discussion of the Findings for Research Questions

Based on the data collected from the participants, the findings will be further discussed in this section with respect to the purposes of this study, which was carried out to investigate the effectiveness of Quizlet as a vocabulary learning tool and the perceptions of students about using such an application on their mobile devices for vocabulary learning. Moreover, this study was also carried out to explore the instructor's perceptions about integrating a mobile tool into his own teaching practices to teach vocabulary and the extent to which this mobile tool promoted learner autonomy in vocabulary learning.

In order to address the research questions of the current study, data were collected through both quantitative and qualitative data collection instruments comprising pre- and post- test, Quizlet online survey, and semi-structured interviews with the students, and the reflective journal kept by the teacher. In the following sections, the findings based on the qualitative and quantitative analyses of each research question will be further discussed in depth.

5.1.1 Discussion of findings of RQ 1: Is there any difference between using Quizlet and a vocabulary notebook in terms of the ability of students to use target vocabulary correctly? The first research question attempted to investigate the difference between using Quizlet as a tool to store and practice the target vocabulary and keeping a vocabulary notebook on students' performance in vocabulary learning by comparing the differences in the obtained pre- and post-test results. The hypothesis was that Quizlet would have a stronger impact on the participants' performance since it is an interactive vocabulary learning tool that gives students instant feedback, reinforces retrieval, and promotes the learners' English vocabulary retention.

The findings revealed that Quizlet had a significant influence on the participating students' performance in vocabulary learning in the treatment group. Specifically, the ANOVA test showed that there was a significant difference between the pre- and post- test scores of the students who studied the target vocabulary via Quizlet. This significant difference between the pre- and post- test results of the treatment group indicating the vocabulary retention can be attributed to the benefits of using flashcards and computer assisted language learning (CALL) with multimedia capabilities. Having been based on similar instructional design and principles with CALL tools and programs, Quizlet flashcards application also provides the learners with multimedia learning tools and its features enable the students to revise the target vocabulary via various types of exercises with the help of both visuals and verbal information, which also promote vocabulary retention. In this study, the participants learned and revised the target vocabulary items through the use of; flashcards, spelling and retyping exercises with the help of an audio function to improve pronunciation skills, matching exercises, and checking their own progress using the test function that allows them to practice by making use of written, multiple choice, matching type, and true/false type of questions. This tool also enables students to study by means of game-like features - Gravity game and Quizlet live game- which are fun and effective ways of in-class revision that also increase student involvement. These multimedia capabilities also support the findings of Mayer's (2005) study regarding the impact of Quizlet flashcards program on students' performance in vocabulary learning, indicating that the use of words and visuals together leads to better learning.

The impact Quizlet had on students' performance in vocabulary learning and the vocabulary retention can be attributed to dual coding theory (DCT), which is based on the principle that nonverbal and verbal systems are cognitively monitored subsystems that can activate one another. Therefore, the interconnected memory codes facilitate learners' recall of the target vocabulary items more than through the use of a single code (verbal or imagery) (Paivio, 1971). In the light of this information, the findings from this study shows that Quizlet had a great impact on students' performance in vocabulary learning since its study and game-like tools provided exposure to the target vocabulary using the definition of the words (verbal code) with pictures (nonverbal/imagery code). Moreover, the findings also supported the results of the study conducted by Başıoğlu and Akdemir (2010) who attempted to investigate the effectiveness of using flashcard applications to study vocabulary in undergraduate students' English vocabulary learning performance. The significant difference in post-test scores of the participants in the treatment and control groups of this study confirmed that the flashcard application on smartphones is a more efficient tool in enhancing students' vocabulary size than the paper-based flashcards.

Similarly, the findings of this study are in line with the results of a recent study carried out by McLean et al. (2013), which examined the effectiveness of another online flashcard site, Word Engine, as a tool to help Japanese learners develop their vocabulary knowledge. The outcomes of this study indicated that this digital flashcards tool enhanced vocabulary learning performance of the participants after the intervention. The students in the experimental group outperformed their control counterparts in the vocabulary post-test, which illustrated that using a digital flashcard program for vocabulary learning is more effective as it has a substantial impact on students' vocabulary acquisition.

In addition, the impact Quizlet had on students' performance in vocabulary learning is in accordance with a recent study conducted by Clark (2013) who looked at the impact an iPad application (Vocabulary Builder) had on students' vocabulary acquisition. Specifically, the results revealed that the application was a more effective tool to learn and revise the target vocabulary items since this tool exposed the learners more to the target words through flashcards (visually) and with the help of audio function to improve pronunciation skills (auditory stimulation).

Moreover, the findings regarding the considerable impact Quizlet had on the participants' performance in vocabulary learning can also be attributed to the positive

effects of spaced-repetition as stated by Nation (2001) and supported by the findings of a study carried out by Thornton and Houser (2005) who aimed to find out the effectiveness of spaced-repetition via mobile phones in vocabulary learning. The participants in the control group were able to acquire more words than the students in the control group who studied by means of printed out vocabulary worksheets only. They attributed the results of this study mainly to the push media effect, which suggests learning through regular revision and spaced study by recycling vocabulary. They also claimed that this spacing effect and exposure to lexical items in fragmented intervals facilitates the retrieval of these words. Similarly, in the current study, spaced-repetition provided through the use of various study and game-like features of Quizlet to expose the students to the target vocabulary items at regular, spaced and increasingly larger intervals reinforced the meanings of the words and thus Quizlet as a digital learning tool had a significant impact on students' performance in vocabulary learning.

The findings also correspond with the results of the study conducted by Altiner (2011) regarding the extent to which a spaced-repetition program, enhances academic vocabulary performance of ESL learners at the university level. The obtained scores from the vocabulary tests revealed that all of the participating students performed better in the post-test that was administered after the intervention than they did in the pre-test. It was found that all of the learners scored at least 15 out of 30, which showed that almost all of the participants acquired at least 50% of the target words. This finding indicates that learning academic vocabulary by means of Anki improved ESL students' academic vocabulary performance. This means that Anki had substantial impact on the students' academic vocabulary learning, since the students were exposed to the target words at regular intervals with the help of spaced-repetition. The findings of this study clearly support the impact Quizlet had on students' performance in vocabulary learning since Anki works in a similar way with Quizlet in that this program is also a spaced-repetition software that allows the users to study and revise various subjects with digital bilateral flashcards.

Additionally, the mean scores of the pre- and post- tests of the two groups of participants (treatment vs. control group) were comparatively analyzed. The findings showed that the students in the experimental group outperformed those in the control group, which is another indication that Quizlet is an effective tool to learn and store the target words. Learning via multimedia tools refers to learning through the use of

visuals and words. As stated by Mayer (2009), multimedia instruction refers to teaching the target words through exposure by means of both pictures and words in order to facilitate learning (p. 5). Quizlet and its game features evidently provides users with multimedia learning and instruction since this tool enables the learners to study and practice the target vocabulary through association of words and pictures on flashcards. Consequently, more statistically significant changes occurred in the mean scores of the control group. Specifically, in this group, the students learned and practiced the target vocabulary through Flashcards, Spell, and Learn functions of Quizlet, which reinforced their vocabulary learning via retyping exercises, images, and spaced-repetition.

Quizlet also offers different game-like study tools that provide repeated exposures to the target words. The findings corresponds with the advantages of using flashcards and MALL tools and strategies with multimedia capabilities. The significant changes in the treatment group can also be attributed to what Mayer (2005) suggested when pointing out that people learn vocabulary better through using visuals and words than through the use of only words without any pictorial aids (p. 31). Similarly, the underlying reason why a flashcards program is more effective than written word lists or vocabulary notebooks can also be attributed what Baddeley (1990), Landauer and Bjork (1978) argued about how retrieval strategies facilitate vocabulary learning more than presentation of words and meanings at the same time. The researchers Baddeley (1990), Landauer and Bjork (1978) asserted that this is one of the main reasons why word cards or flashcards are more effective than vocabulary notebooks. Moreover, some features of Quizlet such as Learn and Gravity game promote quick retrieval of the target words, since these tools require the students recall these lexical items quickly and spell them correctly in a short time. Retrieving increases the chances that the target words will be recalled more quickly than simply encountering words again and again (Nation, 2001, p. 118).

In addition, the findings are also congruent with those of previous studies supporting the effectiveness of digital learning tools in that learning vocabulary through these type of mobile-based applications is a more effective method than studying and revising vocabulary items by means of paper-based strategies and tools. (Altiner, 2011; Azabdaftari & Mozaheb, 2012; McLean, Hogg, & Rush, 2013). The findings regarding the difference between using Quizlet and a vocabulary notebook in terms of the ability of students to use target vocabulary correctly and the main

reason why mobile tools are more effective than vocabulary notebooks can also be seen in the recent research studies carried out in the field, which assert that mobile assisted language learning tools provide the required amount of exposure to learn the target vocabulary items (Thornton & Houser, 2005; Clark, 2013; Wang et al., 2015).

Even though the main findings of the previous studies conducted in this field are congruent with the current research, no significant difference was found between the participants in the experimental and control group with regards to vocabulary development in one of the reviewed studies, which was the one carried out by Başoğlu and Akdemir (2010). The underlying reason for this can be attributed to the lack of visual aids in the flashcard program used in this study, which was a simple flashcard application called ECTACO. However, since Quizlet promotes multimedia learning through various features that expose students to target words visually and trigger the retrieval of the words with the help of extra content, using this tool was found to be more effective than vocabulary notebooks in terms of increasing the chances of recalling the lexical items and fostering acquisition.

5.1.2 Discussion of findings of RQ 2: How does Quizlet help students improve their autonomy in vocabulary learning? In an attempt to address the second research question which aimed to find out how Quizlet help students improve their autonomy in vocabulary learning, the data was collected through three specific online survey items (items 2, 4, 8). The students were asked to report to what extent they agreed with these items. The findings indicated that the students enjoyed exploring this application and using its different modes and game-like functions to study vocabulary. The findings also revealed that Quizlet had a positive impact on their becoming more autonomous vocabulary learners. These findings were also supported by the post-test results reporting that Quizlet also enhanced the students' performance in vocabulary learning.

These findings are in accordance with the study carried out by Dizon (2015) in Japan, which revealed that Quizlet is a useful and effective tool which promotes vocabulary acquisition and autonomy in vocabulary learning. Most of the participants pointed out that they enjoyed using Quizlet as a vocabulary learning application on their smartphones. Similar results were obtained from the study carried out by Azabdaftari and Mozaheb (2012) who state that the accessible and convenient features of the flashcards application along with the entertainment factor

of using a digital flashcards program increased the learner autonomy in vocabulary learning. The Iranian participants in this study reported that they were more motivated and eager to study the target words on their smartphones in and out of the class time, which indicates that the application helped them become more autonomous vocabulary learners.

The results regarding learner autonomy in vocabulary learning are also supported by the study carried out by Wang et al. (2015) about the effectiveness of iPad application Learn British English WordPower on vocabulary acquisition and engagement of English learners in Taiwan. The findings also indicated the use of mobile applications to learn and store vocabulary engages the students more in learning vocabulary and thus, enabling them to gain autonomy in vocabulary learning through studying vocabulary on their mobile devices out of the class time in a more motivating way. Similarly, the findings correspond with the study by Baçoğlu and Akdemir (2010), which looked at the effectiveness of a mobile-based digital flashcard application on vocabulary acquisition. The results of the study revealed that the digital flashcard program is a more effective way of expanding students' vocabulary knowledge than paper-based study methods and strategies. The participants in the experimental group who studied target vocabulary by means of this application outperformed those in the control group. Likewise, they stated that learning the target words through such an application is a fun and useful way to study vocabulary. The participating students also reported that they were highly motivated to study vocabulary on their own mobile devices after studying on this mobile application, which is an indicator of learner autonomy in vocabulary learning.

Finally, the findings of this research are also congruent with those of carried out by Kim et al. (2013) to explore the feelings of students about using their own mobile devices to have a personalized learning experience out of the class time. Since mobile tools provide the learners with anytime and anywhere access, the participants reported that easy accessibility feature of mobile learning applications and programs enabled them to become more autonomous and eager vocabulary learners.

5.1.3 Discussion of findings of RQ 3: What are the perceptions of students and their instructor about using Quizlet as a tool learn, practice and teach target vocabulary? In order to address the third research question of this study that investigated the perceptions of students of using Quizlet to learn and practice the target words along with the perceptions of their teacher of using Quizlet to teach the target vocabulary, data was gathered from semi-structured interviews and the reflective journal. The findings of the semi-structured interviews revealed that the students who learned the target words through the different study and play features of Quizlet found this mobile tool to be an easy and accessible tool to store, study and practice vocabulary. The participants in the treatment group asserted that using Quizlet made them feel confident that they learned the vocabulary items, and its game and study features enabled them to recall the newly acquired words easily and quickly. Shortly, Quizlet was perceived to be quite easy to use by all the participants, which was also supported by Kálecký's (2016) study conducted with low-performing technical and vocational secondary school students. Quizlet was perceived as an easy and very entertaining tool to learn and practice vocabulary since this tool contains fun games to study vocabulary. Additionally, in studies conducted by Oblinger (2005) and Tran (2016), the majority of the learners enjoyed technology-based learning, which led to positive learner attitudes and helped them to enhance their vocabulary knowledge.

Additionally, the findings are in accordance with those of the studies carried out by Kennedy and Levy (2008) as well as Stockwell (2010) which showed mobile applications and programs as more motivating and efficient tools to store and revise the vocabulary. The participants in these studies reported that studying on their own devices using an application helped them to become more eager and enthusiastic vocabulary learners. In a similar fashion, Al-Fahad's (2009) study revealed that using a mobile tool and mobile learning activities engage the students more in the tasks and the learning process in and out of the class time.

Furthermore, regarding the teacher's perceptions about using a mobile tool to teach vocabulary, the findings of the current study are parallel with Ghrieb's (2015) research which indicated that both the teachers and students possess mostly positive attitudes towards the potential use of MALL to improve listening, speaking, and reading skills as well as to reinforce vocabulary. Lastly, similar findings were

gathered from Saidouni and Bahloul (2016) supporting the fact that the overall attitudes of students and teachers towards using mobile tools are mostly positive.

Overall, the findings of the present study are mostly in line with the reviewed literature and supported by different studies carried out in different countries across the world with participants who have similar English levels.

5.2 Pedagogical Implications of the Study

The present study has both descriptive and pedagogical implications for integrating a mobile assisted language learning (MALL) tool and digital flashcard application as an effective and useful tool for vocabulary learning and retention in language classrooms. Based on all of these findings, it can be suggested that Quizlet and its functions should be used not only to teach the target vocabulary items in a language classroom by the teachers and instructors but also to learn and practice the target vocabulary by the students in and out of class time. It should be noted that this tool had a strong impact on vocabulary learning and retention, therefore, material designers and curriculum developers need to take notice of flashcard software programs while designing course materials or developing new educational tools. Flashcard applications have the potential to enable learners to acquire a greater number of words even over short periods of time since they promote intentional vocabulary learning with the help of increased exposure to the target lexical items by means of spaced-repetition. These findings also highlight the inevitable shift towards computer-supported collaborative learning (CSCL), which asserts that collaborative learning needs to be fostered through integrating technological tools into educational contexts to lead to more secure learning outcomes.

The use of flashcard applications and various features of these tools allow learners to retrieve the vocabulary items from their memory. EFL teachers may therefore assist students to develop effective strategies in order to be able to study using flashcards for self-testing or retrieval of the target words and revision through spaced-repetition. The students need to be informed about the boosting effects of intentional vocabulary learning and instructors need to motivate them to study deliberately on their own out of the class. Therefore, the instructors can explicitly teach the strategies required to use flashcards effectively in their lessons or through a series of workshops designed to teach specific study skills to students.

In addition, the obtained findings also indicate that using mobile learning and teaching tools increases autonomy in vocabulary learning by providing students with the opportunity to study and practice the target vocabulary on their own in a more entertaining and motivating way. As a result, mobile devices should be incorporated in language classrooms to aid students in their retention of the target words and promote the enhancement of autonomy in vocabulary learning as well.

Finally, it is important for language teachers to maintain the motivation of students during their classroom practices. One way to overcome this problem might be to integrate these kinds of accessible and free mobile flashcard tools with similar game-like features into their existing syllabus to facilitate millennial student learning in this digital era.

In brief, learning the target words deliberately through the use of digital flashcard applications like Quizlet can and should be used to motivate the students, promote autonomy in vocabulary learning for lexical development in and out of class, and provide individual and collaborative learning opportunities.

5.3 Conclusions

The overriding purpose of this study was to investigate the impact of a mobile application, Quizlet, on students' performance and autonomy in vocabulary learning. The study also attempted to find out the perceptions of students and their instructor of incorporating this application while teaching, learning and practicing the target vocabulary in English preparatory classes. The overall findings of this study underscore the value of integrating mobile assisted language learning and teaching tools like Quizlet into EFL teaching practices and curriculums, since it was found to be an effective and useful application that promotes students' performance and autonomy in vocabulary learning by providing them with spaced repetition and increased exposure to the target words through various functions and a game-like atmosphere to study and acquire the target vocabulary using their mobile devices both in and out of class. The students' preferences of using their mobile phones rather than a desktop to access Quizlet also demonstrates that there is a shift towards mobile assisted language learning in education. The majority of the students enjoyed spending a considerable amount of time without getting bored in and outside the class time while studying on Quizlet, further demonstrating its effectiveness as a learning tool.

In order to throw more light on the issue and to get a deeper analysis, the qualitative data obtained from the semi-structured interviews and reflective journals indicated that both the students and their teacher perceived using a mobile tool to store, practice, and teach vocabulary in and out of class quite positively.

Finally, the results of the current study also confirmed that explicit vocabulary learning through the use of a mobile flashcard program enabled learners to obtain better learning and retention outcomes.

5.4 Recommendations for Future Research

Although most of the data gathered during this study revealed that Quizlet is an effective tool for vocabulary learning, the study still has some shortcomings. First, the number of students who participated in this study might be insufficient to draw substantially valid conclusions about the effectiveness of Quizlet for vocabulary learning in EFL classrooms. Similarly, the perceptions of only one participating instructor were explored in this study; therefore, further studies can be conducted with more EFL teachers to investigate their perceptions of integrating Quizlet into their own vocabulary teaching practices. Besides, this study was conducted at a foundation (non-profit, private) university in Istanbul, which affects the external generalizability of the overall findings. In other words, the findings of the research may not be generalized to the other contexts and settings within or outside Turkey. For that reason, to obtain more reliable and valid findings, similar studies should be conducted with participants enrolled in different universities (both state and private) and with students at different proficiency levels.

Additionally, among the wide range of MALL tools, software programs, and applications, for the purposes of this study, the Quizlet flashcard application was chosen as the primary teaching and learning tool to store and reinforce the target vocabulary. Similar studies may be carried out with other mobile tools and applications to investigate their effectiveness in promoting autonomy in vocabulary learning along with their impact on students' performance in vocabulary learning. A further study can be carried out to explore the learner autonomy in which a post-test is administered halfway through the study. This might reveal more dependable findings regarding the impact Quizlet had on learner autonomy in vocabulary learning since it gives the researcher the opportunity to compare the outcomes of the first and the second post-test, which is given to the students after the treatment.

Despite these limitations, this study is still expected to contribute to the growing body of research on the effectiveness of incorporating mobile applications for language learning and teaching.



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APPENDICES

A. VOCABULARY PRE- AND POST-TEST

Test: Empower Vocab. | Quizlet

Quizlet

NAME _____

5 Written questions

1. to say no to (someone or something) especially in a polite way



2. to give decision about how much money something should be



3. to go from solid to liquid because of heat



4. a statement that you are unhappy or not satisfied with something



5. very important and needing immediate attention



5 Matching questions

1. ____ curious (adjective)

2. ____ deal (noun)

3. ____ disallow (verb)

4. ____ confuse (verb)

5. ____ refund (noun)

A. an amount of money that is given back to someone who has returned a product, paid too much, etc.



B. to make (someone) uncertain or unable to understand something



C. an agreement or a contract in business



D. wanting to know or learn about something



E. to refuse to allow (something)



5 Multiple choice questions

1. a person who receives medical care or treatment



- A. fiction (noun)
- B. patient (noun)
- C. patient (adjective)
- D. author (noun)

2. able to speak a language easily and very well



- A. fluent (adjective)
- B. useful (adjective)
- C. patient (adjective)
- D. urgent (adjective)

3. a person who writes a novel, poem, essay, etc.



- A. patient (noun)
- B. author (noun)
- C. fiction (noun)
- D. degree (noun)

4. an official written document that gives proof of something or tells about past events



- A. author (noun)
- B. deal (noun)
- C. record (noun)
- D. degree (noun)

5. able to remain calm and not become annoyed when waiting for a long time or when dealing with problems or difficult people



- A. patient (noun)
- B. urgent (adjective)
- C. patient (adjective)
- D. fluent (adjective)

5 True/False questions

1. to put something into a hole in the ground and cover it



→ bury (verb)

- True
- False

2. to say that (something) will or might happen in the future



→ predict (verb)

- True
- False

3. to seem to be something; to become visible



→ appear (verb)

- True
- False

4. to make a request for a service or goods



→ order (verb)

- True
- False

5. someone who you have not met before or do not know



→ patient (noun)

- True
- False

B. QUIZLET ONLINE SURVEY

Below is a list of statements. Please indicate how you feel about each statement by indicating your degree of agreement or disagreement with each statement.

Items	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
1. Quizlet is an easy tool to use for studying vocabulary.					
2. Quizlet increased my interest in studying vocabulary.					
3. I feel that Quizlet improves my ability to learn vocabulary.					
4. I like Quizlet because I can access it to study vocabulary on my own devices.					
5. I prefer Quizlet for studying vocabulary rather than vocabulary lists (words + definitions).					

6. I enjoy
studying
vocabulary
with Quizlet.

7. I prefer
learning
vocabulary
through
printed
vocabulary
lists.

8. I feel confident
that I know the
vocabulary
after studying
with Quizlet.

C. SEMI-STRUCTURED INTERVIEW QUESTIONS

1. Do you prefer using Quizlet to keeping a vocabulary notebook? Why / Why not?
2. Would you like to continue using Quizlet to study vocabulary in the future? Why / Why not?
3. Which function of Quizlet do you like the most to study vocabulary? Why?
4. Do you feel that using Quizlet helped you expand your vocabulary competence?



D. SAMPLE PAGES FROM EMPOWER UNITS



CAN DO OBJECTIVES

- Talk about what people do at work
- Talk about your future career
- Make offers and suggestions
- Write a job application


UNIT 5


Work

GETTING STARTED

a  **22** Look at the picture of people at work. What do you think their jobs are? Listen and check your ideas.

b  What are the good things about their jobs? What are the bad things?

c  Why is the man stretching his arms up? What do you think he's saying to his colleague?

d  Work in pairs. Have a conversation using your ideas in **c**. Take turns being the man stretching his arms and his colleague.

47

5A I have to work long hours

Learn to talk about what people do at work

- G** must / have to / can
- V** Work

THE HAPPIEST JOBS

We spend most of our time at work. When we're not there, we're probably thinking about it. But what makes us happy at work? And which workers are the happiest? Here are twelve of the happiest and least happy jobs in the UK, according to the City & Guilds 'Career Happiness Index'.

% AGREEING THEY ARE HAPPY AT WORK		
1 _____		87%
2 _____		79%
plumbers		76%
scientists		69%
doctors and dentists		65%
lawyers		64%
3 _____		62%
teachers		59%
4 _____		58%
electricians		55%
IT workers		48%
5 _____		44%

1 VOCABULARY Work

- a Look at the photographs. Which jobs can you see?
- b Work in pairs. Make a list of as many jobs as you can. You have one minute.
- c Now go to Vocabulary Focus 5A on p.136

2 READING

- a Work in pairs. Read the first part of the article: *The Happiest Jobs*. Where do you think these jobs go in the list?

 bankers gardeners hairdressers nurses accountants
- b Check your ideas on p.127. Are you surprised? Why? / Why not?
- c What do you think makes people happy at work? Make a list of ideas with a partner.
- d Read the second half of the article. Was your list correct?
- e Work in pairs. Answer the questions.
 - 1 Do you know anyone who does any of the jobs in the article? How do they feel about their job?
 - 2 Which job in the article is the most similar to your (future) job?
 - 3 Did anything in the article surprise you? Was there any information that you already knew?
 - 4 Do you think the results would be the same in your country? Why / Why not?

THE HAPPIEST WORKERS: WHY THEY'RE HAPPY

So what makes us happy at work? What you do in your job and where you do it is very important:

- * 89% of gardeners feel their work is important and useful. Only 35% of bankers feel the same.
- * 82% of gardeners said they use their skills every day, compared to only 35% of bankers.
- * 89% of gardeners said they like their working environment, but only 24% of bankers said the same.

The people we work with matter:

- * The most important thing of all is that other people value your work. 67% of all workers put this first.
- * Most workers said that good relationships with colleagues are important. Scientists get on best with their colleagues (90%).

More money doesn't make us happier:

- * 61% of workers said that it is very important for them to earn a good salary, but ...
- * Workers who earn over £60,000 a year are the unhappiest.
- * Self-employed people earn less but are much happier at work (85%) than people who work for a company.

PLUMBERS

74% think their work is important and useful.

67% use their skills every day.



HAIRDRESSERS

Only 7% are unhappy in their jobs.

86% get on well with their colleagues.



GARDENERS

89% think their work is important and useful.

35% are self-employed.





4 GRAMMAR *must / have to / can*

- a** Look at the sentences. Match the underlined words with the meanings.
- To become a nurse you have to do well at school.
 - You don't have to wear a suit or go to many meetings.
 - You can't relax because if something goes wrong, you lose money.
- a _____ = this is not necessary
 b _____ = this is not allowed or not possible
 c _____ = this is necessary

- b** Compare the written rules from John and Alisha's workplaces with the things they said. Complete the rules below.

Nurses must not lift patients without another nurse present. You can't lift a patient on your own.

You always have to switch off the mains power. Electricians must switch off the mains power before they start work.

In written English, we use:
 _____ to say that something is necessary
 _____ to say that something is not allowed or is not possible

- c** Now go to Grammar Focus 5A on p.150
- d** What do you have to do if you work in these places? What can't you do?
- office
 - restaurant
 - bank
 - school

In a school, you can't leave children on their own. Yes, and you have to wear a suit.

- e** Write rules for the people who work in each place in 4d. Use *must* and *must not*.
- Teachers must not leave children on their own.
 Teachers must wear a suit.

3 LISTENING

- a** What do you think these people like about their jobs?
- Alisha, nurse
 - John, electrician
 - Miriam, banker
- b** Listen to Alisha, John and Miriam and check your ideas in 3a.
- c** Listen again and answer the questions about each person's job.
- What qualifications, experience and other abilities are necessary for the job?
 - What is difficult about the job?
- d** Which of the three jobs would you prefer to do? Why? Would you be good at it?

5 SPEAKING

- a** Choose five of the jobs from the list. Think of three advantages and three disadvantages for each job.
- scientist
 - lawyer
 - accountant
 - electrician
 - IT worker
 - engineer
 - nurse
 - pilot
 - police officer
 - receptionist
 - secretary
- b** Which job do you think is the hardest? Which job is the most interesting?

Receptionists don't have to have a university degree. And they can find a job quite easily. But they have to work long hours. And they don't earn a good salary.

5B I might get a job today!

Learn to talk about your future career

- G** will and *might* for predictions
- V** Jobs

1 SPEAKING

- a** What can you do if you need a job? Where can you go? Who can you speak to?
- b** Match the worries 1–3 with the situations in the pictures.
- 1 I'll say something stupid on my first day.
 - 2 I won't find a job I'll enjoy.
 - 3 They'll ask me really difficult questions.



- c** Have you ever had any of the worries in 1b? Tell a partner.

2 LISTENING

- a** **2.9** Listen to three people talking about finding work. Where are they? Who is the most positive about finding work? Who is the least positive?



- b** **2.9** Read the predictions each speaker made. Listen again. What reasons do they give for each prediction?

Sara

- 1 It won't be easy to find a job I'll enjoy.
- 2 I don't think I'll get an interview.

Marco

- 3 I'm sure I'll make some really useful contacts.
- 4 I might get a job today!

Kate

- 5 I might not get my perfect job.
- 6 I'm sure I'll find some kind of work.

- c** Have you ever been to a careers fair? What was it like?

3 GRAMMAR

will and *might* for predictions

- a** Look at the sentences in 2b again. Then underline the correct word to complete the rule about *will* and *might*.

We use *will* and *might* to make predictions about the future.
will and *won't* are *more / less* sure than *might* and *might not*.

- b** Now go to Grammar Focus 5B on p.150

- c** Write a positive response to each worry in 1b. Then compare with other students. Whose responses are most positive?

I won't find a job I'll enjoy. → You might find something really interesting.

- d** **Communication 5B** If your partner has got a job: go to p.130.
 If your partner does not have a job: go to p.128.

4 VOCABULARY Jobs

- a Find the jobs in the photos on the page.
- computer programmer carer
 shop assistant postman builder
- Do you know anyone who does these jobs?

- b Now go to Vocabulary Focus 5B on p.136

- c **2.13 Pronunciation** Listen to the words. How does the speaker say the consonant sound /ʃ/ in the part of the words in bold?

musician politician **shop** assistant

- d **2.14** Listen to the words. Which words have the /ʃ/ sound? Underline the letters.

qualification question information
 machine experience change

- e Practise saying the words in 4c and 4d.

5 READING

- a Look at the jobs in the photos. Answer the questions with a partner.
- Which jobs do you think might disappear in the future?
 - Which jobs do you think there will be more of in the future?

- b Now read the article and check your ideas in 5a.

- c Read the article again. What will happen because of these things?
- | | |
|-------------------|--------------------------|
| • online shopping | • environmental problems |
| • sending emails | • living longer |
| • digital photos | • studying online |
| • 3D printers | |

6 SPEAKING

- a Work in small groups. Look at the predictions. Do you think these things will happen in your lifetime? Why / Why not?
- 3D printers will make parts of buildings or whole buildings.
 - People won't print photos any more.
 - There won't be many shops.
 - There won't be any huge offices. People will generally work at home.
 - Companies will pay the bosses less and other staff more.
 - A normal working week will have four days, not five.
- b Work alone. Write three new predictions.
- c Read your predictions to your group. Do they agree?

Planning a safe future career

Choose your future career carefully – experts are predicting big changes in the jobs we'll do in the next ten or twenty years. Some jobs might disappear, but others will become more important.

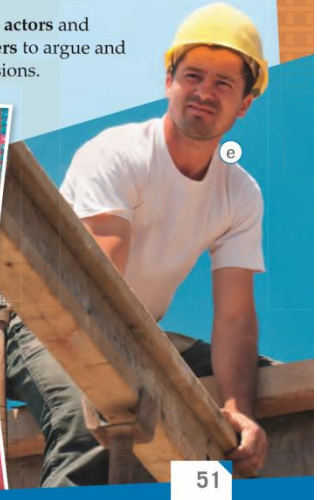
The Internet will have a big effect. People already choose to do a lot of their shopping online, so there won't be as many shops, and there won't be many jobs for shop assistants. Some postmen and other post office staff might lose their jobs, because people will send everything by email.

Another job that might disappear because of technology is photo processors – the people who print photos. This is because most of us keep our photos on our computers now and never print them. Also, there might not be as many jobs for builders as there are today. 3D printers will soon make parts of buildings or even whole buildings in just a few hours.

So which jobs are safe?

- **Computer programmers** – a hundred years ago there were none, but now there are lots of them and there will be even more in future because almost all jobs will need computers.
- **Environment protection officer** – there will be a lot of new 'green' jobs as environmental problems get more serious.
- **Carers** – people will live longer and we'll need carers to look after us in old age.
- **Online education manager** – many students will take online courses. There will be jobs for people to create and organise the courses.

And of course, we will still need **actors** and **musicians** to entertain us, **lawyers** to argue and **politicians** to make the big decisions.



50 Everyday English

I'll finish things here, if you want

Learn to make offers and suggestions

- P Sentence stress: vowel sounds
- C Reassurance

1 LISTENING

- a When was the last time someone asked you for help? Who was it? What did he / she ask?
- b Look at the picture of Rachel and read the text message. How is she feeling? Who is the text from? What's the problem?
- c 2.15 Watch or listen to Part 1. Answer the questions.
- 1 What does Tina think Rachel should do for Annie?
 - 2 What does Tina offer to do?
 - 3 Why is Rachel worried about leaving early?
 - 4 How are they going to deal with the problem?
- d What would you do in Rachel's situation? Would you call Annie or go and see her? Why?



2 CONVERSATION SKILLS Reassurance

- a 2.15 Watch or listen again. Match the sentences with the responses.
- 1 But I can't leave you here on your own.
 - 2 We've still got so much to do.
 - 3 It means you won't be able to leave early today.
 - 4 OK, well if you're sure.
- a **Never mind.**
 b Of course. **It's no problem.**
 c I'll be fine! **Don't worry about it.**
 d Oh, **it doesn't matter.**
- b 2.16 Why do you think Tina uses the expressions in bold in a–d? Listen and repeat the phrases.
- c In pairs, look at situations 1–6. Take turns to apologise for the problems. Respond with expressions a–d in 2a.
- 1 You can't help your partner this weekend.
 - 2 You lost your partner's book.
 - 3 You have to cancel the dinner party.
 - 4 You don't have the money you owe your partner.
 - 5 You can't come to the cinema tonight.
 - 6 You're going to be late for the party.



I'm really sorry, but I can't help you this weekend. I have to work.

Oh, it doesn't matter.

3 LISTENING

- 2.17 Watch or listen to Part 2. Which jobs will Tina do before she goes home?
- 1 finish off the flowers
 - 2 start the order for Mrs Thompson
 - 3 start the order for the birthday party
 - 4 put the alarm on
 - 5 take out the rubbish
 - 6 take the order for the wedding



4 USEFUL LANGUAGE**Offers and suggestions**

- a** **2.18** Listen and complete the sentences.
- _____ finish things here, if you want.
 - Why _____ you tell me what we still need to do?
 - _____ I finish off those flowers?
 - Would you _____ me to prepare some of the orders for tomorrow?
 - You _____ start with that order for Mrs Thompson.
 - Maybe you _____ start on the order for that big birthday party.
 - Do you want _____ to take out the rubbish when I leave?
 - How _____ taking her some flowers?
 - Why _____ I deal with this?

b Look at the sentences in 4a again. Mark them *O* (offer) and *S* (suggestion).

c Work in pairs. What offers and suggestions could you make in situations 1–4? Use the phrases and your own ideas.

I'll ... Why don't I / you ... ? Shall I ... ?
 Would you like me to ... ? Maybe you should ...
 How about ... ? Do you want me to ... ?

- It's raining. Your friend has to walk to the station, but doesn't have an umbrella.
- Your colleague has to write a report for her boss before the end of the day. There's not enough time.
- Your friend wants to go for a meal. You don't like the restaurant he suggests.
- You see a tourist. She's lost her bag and doesn't have any money.

Why don't I drive you to the station?

How about getting a taxi?

5 PRONUNCIATION**Sentence stress: vowel sounds**

- a** **2.19** Listen to the phrases from 4a. Are the **highlighted** modal verbs stressed?
- Shall** I finish off those flowers?
 - Would** you like me to prepare some of the orders for tomorrow?
 - You **could** start with that order for Mrs Thompson.
 - Maybe you **should** start on the order for that big birthday party.
- b** **2.19** Listen again. Which vowel sound do you hear in each of the modal verbs?
- c** Practise saying the sentences in 5a.

6 SPEAKING

a Work in groups of four. Choose one of the two events to organise.

A work meeting

- book meeting room
- arrange hotel for guest from advertising company
- book taxis for colleagues from other office

-
-
-

A surprise birthday party for a friend

- buy food and drink
- make and send invitations
- book somewhere for the party

-
-
-

b Work with a partner in your group. Look at the list of things to do for the event you chose. Add three more things.

c Work in your group again. Now you have to organise the event. Make offers and suggestions to decide which person in your group will do which job.

Shall I book a meeting room?

OK, why don't you call a hotel?

Would you like me to buy the food?

Sure. How about going to the supermarket?

Unit Progress Test**CHECK YOUR PROGRESS**

You can now do the Unit Progress Test.

5D Skills for Writing

I am writing to apply for a job

Learn to write a job application

W Organising an email

CUBA COFFEE

We're looking for keen young people to work in our cafés. No experience necessary – we'll give you the training you need to become a barista!

Contact us at www.cubacoffee.com and send us your CV.

Q.net ✓

Situation Vacant

Students required to work for a market research company. Interview people in the street or on the phone in our offices. Good pay – work when you want to.

Visit our website at www.customer-Q.net

Saveco

Weekend and summer jobs for students

Join our team and earn money. General assistants required for checkout and meat and fish counters. Good pay and conditions.

Contact: reply@saveco.com

electrostores

Sales assistants wanted to sell mobile phones in our superstores. Earn 10% on every phone you sell. Find us at www.electrostores.com/mobiles

Free training programme.

1 SPEAKING AND LISTENING

- a** Have you ever had a summer job or a part-time job? What was it? Did you enjoy it?
- b** Read the job adverts. Which jobs in the adverts could these sentences describe?
- You have to start early in the morning.
 - You need to be good with money.
 - You need to like working fast.
 - It's nice because you can talk to people.
 - You have to be good at explaining things.
 - You can earn extra money from tips.
- c** Work in pairs. Answer the questions about the jobs in the adverts.
- Which job would you most like to do? Why?
 - Which job would you least like to do? Why?
 - Which job would you do best? Why?
- d** Listen to two students, Penny and John, and answer the questions.
- Which jobs in the adverts are they talking about?
 - Do they like the jobs? Why / Why not?
- e** Listen again and choose the correct answers.
- John *has / hasn't* worked in the café before.
 - John *likes / doesn't like* working quickly.
 - John *sometimes / always* makes £20 in tips.
 - Penny *has / hasn't* worked in a café before.
 - Penny *is / isn't* going to apply for the job.

2 READING

Read Penny's job application. Are sentences 1–4 true (T) or false (F)? Correct the false sentences.

- She tells them she has worked in cafés before.
- She saw the ad in the newspaper.
- She can't work this summer, because she's studying.
- She wants to know how much she will earn.

- Dear Sir/Madam,
 - I am writing to apply for the job of barista at the Cuba Coffee Company, which you advertised on your website.
 - I am a student at the University of Manchester and I am available to work in August and September.
 - A job with you will be an exciting opportunity for me to learn new skills and to work in a new environment. I have a lot of experience of working in a team and helping customers at Saveco supermarket. My experience of working in a fast, busy supermarket will be very useful for this job.
 - I attach a copy of my CV with details of my past employment.
 - Could you please send me information about the salary and working hours, and also more details about your training programme?
 - I look forward to hearing from you.
- Yours faithfully,
Penny Longwell

3 WRITING SKILLS Organising an email

a Penny's email in 2 has seven parts. What does each part of the letter do?

- says why she's writing
- asks for more information about the job
- describes documents she's sending with the email
- opens the email
- closes the email
- says why she wants the job and describes her experience
- says what she's doing now and when she can work

b Look at sentences 1–5. Which ones are about ... ?

- what you are doing now
- past jobs
- skills

- 1 I am good at working in a team.
- 2 I have experience of working in a restaurant.
- 3 I am currently working as a sales assistant in a bookshop.
- 4 I am studying engineering in Madrid.
- 5 I speak fluent English.

c What are the missing prepositions? Complete the sentences.

- 1 I am writing to apply _____ the job _____ barista.
- 2 I am a student _____ the University of Manchester.
- 3 I have a lot _____ experience _____ working _____ a team.
- 4 I look forward _____ hearing from you.

d Put the parts of the email below in the correct order.

I attach a copy of my CV.

I look forward to hearing from you.
Yours faithfully,

I am writing to apply for the job of sales assistant.

Dear Sir/Madam,

I would like to work for your company,
because it would be a good opportunity for
me to improve my communication skills.
I have three years' experience of sales.

I am currently
working as a
sales
assistant in a
clothes shop.

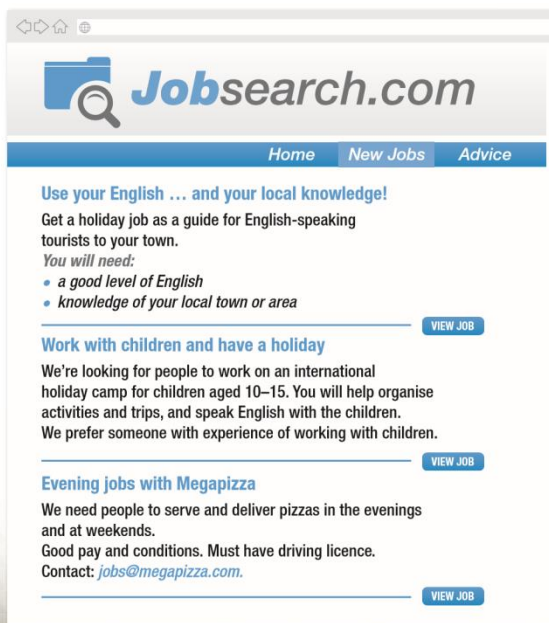
Could you send me more information
about the working hours?

4 WRITING A job application

a Read the adverts on *Jobsearch.com*. Choose one and write an email applying for the job. Include these parts:

- open the email
- say why you are writing
- say what you are doing now
- say why you want the job
- describe documents you are sending
- ask for more information
- close the email

b Work in groups. Read the applications together. Which student would you give each job to? Why?



Jobsearch.com

Home New Jobs Advice

Use your English ... and your local knowledge!
Get a holiday job as a guide for English-speaking tourists to your town.
You will need:
• a good level of English
• knowledge of your local town or area [VIEW JOB](#)

Work with children and have a holiday
We're looking for people to work on an international holiday camp for children aged 10–15. You will help organise activities and trips, and speak English with the children. We prefer someone with experience of working with children. [VIEW JOB](#)

Evening jobs with Megapizza
We need people to serve and deliver pizzas in the evenings and at weekends.
Good pay and conditions. Must have driving licence.
Contact: jobs@megapizza.com. [VIEW JOB](#)



UNIT 5

Review and extension

1 GRAMMAR

- a** Choose the correct answers.
- Employees must not use their computers to send personal emails.
'We _____ use our computers to send personal emails.'
(a) have to (b) don't have to (c) can't
 - Employees can leave the building at lunch time.
'We _____ stay in the building at lunch.'
(a) must (b) don't have to (c) can't
 - Employees _____ use social media.
'We can't use social media at work.'
(a) must not (b) must (c) don't have to
 - Employees _____ make local phone calls on company phones.
'We don't have to use our mobiles to make local calls.'
(a) can (b) can't (c) must
 - Employees _____ wear a shirt and tie.
'We have to wear a shirt and tie.'
(a) can (b) must not (c) must

- b** Match sentences (1–5) with meanings (a–c).
- It won't be difficult for me to find a job.
 - I think I'll finish university next year.
 - I might work for a bank one day.
 - I'll find a good job in the USA.
 - I might not find a job I like in my home town.
- a completely sure b fairly sure c not sure

- c** Which of the sentences in 1b are true for you?

2 VOCABULARY

- a** Choose the best jobs for each person (1–7).

accountant carer hairdresser IT worker
journalist politician vet

- I really like working with animals. _____
- I enjoy helping older people. _____
- I want to tell people what's happening in the world. _____
- I'm good with numbers. _____
- I like meeting people and helping them look good. _____
- I want to make my country a better place. _____
- I enjoy working with computers. _____

- b** Which jobs would you like and not like in 2a?

- c** Match the sentence halves.

- In my job, I have to work
- My job's interesting, because I have to make
- I don't have a boss, because I'm
- I enjoy being in my office. We're lucky that we have
- I'm tired at the end of the day, because I deal with

- a self-employed.
b very long hours.
c a nice working environment.
d important decisions every day.
e lots of serious problems.

56

3 WORDPOWER *job and work*

- a** Look at the sentences. Which word (*job* or *work*) is countable? Which is uncountable?

- I've got a really interesting **job**.
- I'm looking for **work** at the moment.

- b** Match the uses of *work* and *job* (1–4) with the meanings (a–d).

- 90% of gardeners feel their **work** is important and useful.
- We spend most of our time at **work**.
- I've got a lot of **jobs** to do at home this weekend.
- I enjoy my course, but it's hard **work**.

- a when you use lots of energy to do something
b the activity or activities you do for your job
c activities you have to do, often without getting money
d the place where you work

- c** Match sentences (1–3) with replies (a–c).

- Why isn't my email **working** on this computer?
- Is the medicine from the doctor **working**?
- I can't **work** this **out**. Do you know the answer?

- a No, it's a very difficult question.
b I don't know. Maybe there's a problem with the Internet.
c Definitely. I feel much better.

- d** Complete the sentences with *work* or *job*.

- I'm painting my apartment at the moment. It's a lot of hard _____.
- I'm starting a new _____ soon.
- My mobile doesn't _____ when I'm inside this building.
- I've got an important _____ to do at home this weekend.
- I leave _____ early on Fridays.
- The education system in my country doesn't _____ well.
- I know a lot of people who are trying to find _____.
- I can't _____ out how to download this application form.

- e** Complete these sentences with your own ideas.

- I can't work out ...
- I would like to get a job ...
- Two jobs I need to do this week are ...
- ... makes me happy at work.
- I need to do some hard work ...
- ... doesn't work very well.

- f** Compare your sentences in 3e with another student.

REVIEW YOUR PROGRESS

How well did you do in this unit? Write 3, 2 or 1 for each objective.

3 = very well 2 = well 1 = not so well

I CAN ...

- | | |
|-----------------------------------|--------------------------|
| Talk about what people do at work | <input type="checkbox"/> |
| Talk about your future career | <input type="checkbox"/> |
| Make offers and suggestions | <input type="checkbox"/> |
| Write a job application | <input type="checkbox"/> |

6B I was very frightened

Learn to describe extreme experiences

- G Uses of to + infinitive
- V -ed / -ing adjectives

1 VOCABULARY -ed / -ing adjectives

- a Look at the pictures on this page. How do you think the people are feeling? Make a list of words.
- b Read the sentences and answer the questions.
 Johan's day at the beach was very relaxing.
 After a day at the beach, Johan was completely relaxed.
- Which adjective describes how he feels?
 - Which adjective describes the thing that makes him feel like that?
- c Now go to Vocabulary Focus 6B on p.137

2 READING AND LISTENING

- a Have you tried scuba diving? Would you like to? How do you think you would feel if you saw a shark?
- b Match the words with a-f in the pictures. Use the words to describe the scene.

<input type="checkbox"/> a	scuba diver	<input type="checkbox"/> c	shark	<input type="checkbox"/> e	reef
<input type="checkbox"/> b	the surface	<input type="checkbox"/> d	breathe (v.)	<input type="checkbox"/> f	air

- c Read *Sharks saved my life*. Which sentence is true about Caroline's experience in Egypt?

- She went scuba diving to deal with her fear of sharks.
- She was afraid, because she went scuba diving in very deep water.
- She got lost when she was scuba diving.

SHARKS SAVED MY LIFE

I started scuba diving because I was interested in sharks. I learnt how to dive in England, but English waters were very disappointing. So I decided to try the Red Sea in Egypt.

The diving there was much more interesting. I saw so many beautiful fish, including sharks. After a few days, my instructor suggested a trip to the Shaab Shagra reef to swim with the sharks there.

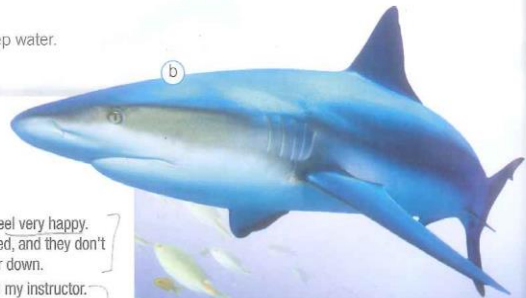


We went out in an old fishing boat and I asked him, 'How deep is the water?' 'Not deep. 30 metres,' he said. I thought, 'Good, I can do that but I can't go below 30 metres.' I didn't have any experience of deep diving, and I knew that below 30 metres people often feel strange.

Some people suddenly feel very happy. Other people get confused, and they don't know which way is up or down.

I jumped in and followed my instructor. When we got down to the reef I looked at my diving watch to see how deep we were. I was shocked to see we were at 40 metres! I was scared and I was breathing very quickly. I thought to myself, 'Don't use all your air. Breathe slowly.' But I was really frightened and I couldn't slow my breathing down.

I was really worried about my air. How much did I need? Did I have enough? I remember looking up at the light. I felt terrified, and I just wanted to go back up to the surface fast. But I knew that if you go up too fast you can get 'the bends' and die in terrible pain. I was thinking, 'Don't go up. You'll die.' But my heart was saying, 'Go up! Go up!' I looked for my instructor. But I couldn't get his attention.



- d Read the article again. Answer the questions with a partner.
- Why did Caroline go to Egypt? *to go scuba diving*
 - Why did she ask the instructor how deep the water was?
 - How did she feel when they got to the reef? Why?
 - Why didn't Caroline go back up to the surface of the water fast?

- e What do you think happened next? How do you think sharks saved Caroline's life?

- f 2.28 Listen to the rest of the story and check your ideas in 2e.

- g 2.28 Listen again and answer the questions.

- What happened after Caroline saw the sharks?
- How did Caroline feel when she was back on the fishing boat?
- How has the experience changed Caroline?

- h Ask and answer the questions.

- Were you surprised by anything in the story?
- Do you think you would feel the same way as Caroline if this happened to you?

11A It's a robot that looks like a human

Learn to explain what technology does

- G Defining relative clauses
- V Compound nouns

1 READING AND LISTENING

- a Look at titles of the films and books in the article. What kind of stories are they? Have you seen or read any of them? What are they about?
- b Read the introduction to the article. What do e-book readers and cash machines have in common?
- c Read the article. What ideas come from each sci-fi book/film?
Back to the Future II flying cars
AI _____
Iron Man _____
Minority Report _____ and _____

- d 3.34 Do you think people have invented the technology in 1c in real life yet? Tell a partner. Then listen and check.

- e 3.34 Listen again. How is the real technology different from the book/film?

- f 3.34 Listen again. Are the sentences 1–8 true (T) or false (F)? Correct the false sentences.

- 1 The *Terrafugia* flying car can go on normal roads.
- 2 Anyone who has a driving licence can fly a *Terrafugia* car.
- 3 The *Kirobo* robot was designed to fall in love with the astronauts.
- 4 The *Kirobo* robot knows what the astronauts look like.
- 5 Robotic suits are used to help people with health problems.
- 6 *Cyberdyne* hope their robotic suit is used to save lives.
- 7 *Blue CRUSH* has not reduced crime in Memphis.
- 8 The *NEC* billboards know if you are interested in their adverts or not.

- g Answer the questions.

- 1 Which of the new technologies from the listening do you think are the most useful? Why?
- 2 Think of three more kinds of technology you have seen in sci-fi books/films. Is it real yet? Do you think it will be real one day?

SCIENCE FICTION: THEY THOUGHT OF IT FIRST!

Did you know that a lot of the technology we use today appeared in science fiction *before* scientists invented it?



E-book readers didn't appear until 1999, but as long ago as 1961, author Stanislaw Lem wrote about them in his book, *Return from the Stars*.



Cash machines were invented in the 1980s. But Ray Bradbury thought of them first, in his 1953 novel, *Fahrenheit 451*.

Scientists are working on all these ideas from science fiction. How far have they got?



Back to the Future Part II, Steven Spielberg (1989)

When the heroes of the film travel to the future, one of the most amazing machines they find is flying cars. The cars fly along 'roads' in the sky which have signs and streetlights.

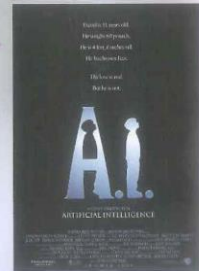
AI, Steven Spielberg (2001) based on **Super-Toys Last All Summer Long**, Brian Aldiss (1969)

When a young child dies, his mother is given an android which looks and behaves exactly like a real boy. The robot loves her like a son.



Iron Man Marvel Comics (1963) Marvel films (2008 onward)

A rich scientist and engineer is badly hurt. To save his own life, he builds himself a robotic heart and a powerful metal suit which makes him stronger and faster than any other man. He becomes a cyborg – part man, part machine.



Minority Report short story by Philip K. Dick (1956) and a film by Steven Spielberg (2002)

Tom Cruise plays a detective who can stop crimes before they happen. His team use information from psychics, who can see the future. They know who will break the law and when it will happen, but they don't know where.

Another idea that appeared in *Minority Report* is personalised advertising. All around the future city there are advertising billboards which use cameras to recognise the people walking by. The billboards speak to people by name and suggest things to buy.



E. VOCABULARY NOTEBOOK SAMPLE PAGES

HAKAN TEACHER - VOCABULARY NOTEBOOK
UNIT-6-7

<u>WORD/PHRASE</u>	<u>DEFINITION</u>
terrific (adj.)	= extremely good
urgent (adj.)	= very important and needing immediate attention
destroy (v.)	= to damage something very badly
suitable (adj.)	= having the qualities that are right, needed, or appropriate for sth.
argue (v.)	= to speak angrily to someone, to disagree
confuse (v.)	= to make someone uncertain or unable to understand sth.
terrible (adj.)	= very bad or unpleasant
turn down (phrasal verb)	= to say no to someone or something especially in a polite way
complaint (n.)	= a statement that you are unhappy or not satisfied with something
disappointed (adj.)	= feeling sad, unhappy, or displeased because something you hoped has not happened

UNIT - 11

WORD/PHRASE

DEFINITION

author (n.) = a person who writes a novel, poem, etc.

curious (adj.) = wanting to know or learn about sth

appear (v.) = to seem to be something, to become visible

break the law = do something against the law

development (n.) = the act or process of developing, growth's progress

fiction (n.) = written stories about people and events that are not real

stranger (n.) = someone who you have not met before or do not know

run (v.) = to function or operate

melt (v.) = to go from solid to liquid because of heat

bury (v.) = to put something into a hole in the ground and cover it

F. VOCABULARY TASKS FROM LEVEL 3 BOOKLET

Empower B1
Unit 5
Vocabulary Task

fluent available predict generally availability entertain use qualified
know qualify general suggestion preparation prepare suggest
fluently prediction knowledge entertainment qualification useful

A. Put the words in the box into the table below according to their word class.

Nouns	Verbs	Adjectives	Adverbs

B. Which suffixes suggest which word classes? Look at exercise C and complete the chart with the correct suffixes. An example is provided for you.

Nouns	Verbs	Adjectives	Adverbs
		- <i>able</i>	

C. Complete the sentences by using the words in Exercise A. The clues are given in brackets.

- The scientists _____ that there will be life on Mars in the near future. (to say that an event or action will happen)
- The manager believes that Thomas is not _____ for this job. (having the practical knowledge or skills to do something)
- The Kardashians are annoying yet they are still the most popular celebrity family in the _____ business. (shows, films or TV performances that people watch to have fun)
- Alex is making _____ for moving to Italy. (something you do to get ready)
- She has limited _____ of English, but she still wants to start her master's degree in London. (understanding or information about a subject)
- A good knife is probably the most _____ thing you can have in a kitchen. (effective, helping you to do something)
- I called the hotel to ask if they have _____ rooms for the weekend. (something you can get, buy or use)
- I still don't know what to wear for the wedding party. Do you have any _____? (recommendations)
- Ronnie can speak four languages _____. He's very lucky. (easily, in a good way)
- The doctor said that my health is _____ good but I should stop smoking soon. (usually, mostly)

D. Circle the correct form of the word in bold and choose the best meaning for the word you chose.

1. Because clean water is **available/unavailable** to many parts of Africa, people suffer from diseases like cholera.

- a) not found b) not used c) found d) wanted

2. The woman said that the UFO flew for a while and then suddenly appeared/**disappeared** into the clouds.

- a) showed up b) flew c) got lost d) crashed

3. You should be **patient/impatient**. I am sure you will get what you deserve!

- a) anxious b) mad c) calm d) nervous

4. The government **allowed/disallowed** all protests in the city, so the protestors had to stop their protest and leave the city center.

- a) let b) cancelled c) accepted d) continued

5. It is **necessary/unnecessary** to bring all the required documents if you want to get your visa soon.

- a) useless b) important c) unimportant d) guaranteed

Language Note: In order to make words negative, we can add - _____, - _____, or - _____ at the beginning of the words.

E. Match the sentence halves to make meaningful sentences and then complete the phrases in the box according to the exercise.

- | | |
|--------------------------------------------|------------------------------------------|
| 1. Murphy is very keen house. | a) to sleep over at my friend's house. |
| 2. Daniel said that he can't deal cutting | b) for many purposes such as cutting |
| 3. My dad doesn't allow me honeymoon. | c) going to Bahamas for their honeymoon. |
| 4. She suggested | d) on driving sports cars. |
| 5. We're looking for someone who is fluent | e) in English and Spanish. |
| 6. This camping tool is useful anymore. | f) with his sleep problems |

be keen _____ doing something
to deal _____ something
to allow somebody _____ do something
to suggest _____ something
be fluent _____ something
be useful _____ something

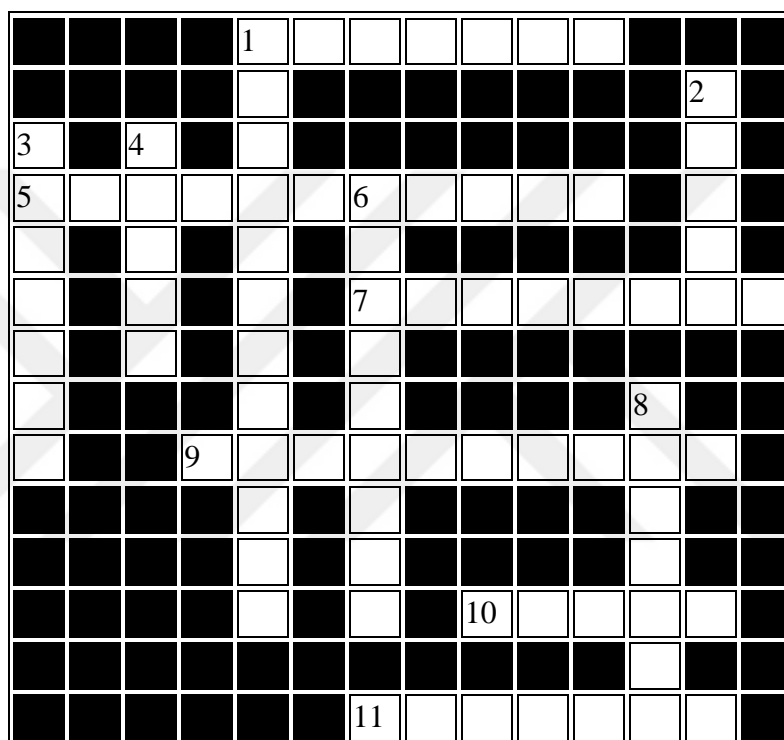
F. Choose the correct meaning of the words in bold.

1. Aziz Sancar, who got a Nobel Prize in Chemistry, has a **degree** in medicine and biochemistry.
 - a. a unit for temperature, heat
 - b. qualification from university or college
2. After the snake bite, the woman stood **still**. She didn't even move a finger.
 - a. continue to happen
 - b. stay in the same position
3. They told me that the film was a real success, but I think it was just **rubbish**.
 - a. something of very low quality
 - b. something you throw away because it is useless
4. After months of hard work, I guess he **earned** this success.
 - a. to get money for work that you do
 - b. to get something that you deserve because of the good qualities you have
5. He wants to **order** a large study desk for his office.
 - a. verb: to make a request for a service or goods
 - b. noun: something that someone tells you must do
6. The rich businessman **valued** the painting at \$1.000.000.
 - a. verb: to give decision about how much money something should be
 - b. noun: how much something is worth
7. Dr. Shaw treats his **patients** with the new drug.
 - a. noun: a person who is receiving medical treatment
 - b. adjective: calm and tolerant
8. The manager is now ready to **interview** the applicants.
 - a. noun: a meeting in which someone asks you questions
 - b. verb: to ask someone questions in a meeting
9. The two companies finally agreed to sign a 5-year **deal**.
 - a. noun: an agreement or a contract in business.
 - b. verb: to solve a problem or a task.

**Empower B1
Unit 6
Vocabulary Task**

argue	destroy	explanation	attention	confuse	shocked
steal	terrible	instructor	certain	disappointed	upset

A. Solve crossword below by reading the clues and using the words in the box.



Across →

1. to damage something very badly
5. the details or reasons someone gives
7. very unpleasant, very bad
9. a teacher of a college or university subject
10. to speak angrily to someone, to disagree with someone
11. very upset or surprised

Down ↓

1. unhappy because something you hoped for has not happened
2. to take something from a person, or a shop without permission
3. true, correct, exact
4. to make someone worried, unhappy or angry
6. thought, interest that people show in something
8. to make something difficult to understand

B. Group the words in Exercise A according to their word class.

<p>NOUNS</p> <p>explanation</p> <p>attention</p> <p>instructor</p>	<p>VERBS</p> <p>argue</p> <p>destroy confuse</p> <p>steal upset</p>	<p>ADJECTIVES</p> <p>shocked terrible</p> <p>certain disappointed</p>
---------------------------------------------------------------------------	----------------------------------------------------------------------------------------	------------------------------------------------------------------------------------

C. Rewrite the sentences by using the given form of the word. The first one is an example.

Ex: The professor gave an explanation about the exam rules.

The professor explained/explains the exam rules. (**explain-v.**)

1. Unfortunately, we were all _____ by the concert.

Unfortunately, the concert _____ us all. (**disappoint-v.**)

2. After the accident, he was totally in_____.

After the accident, he was totally _____. (**shocked-adj.**)

3. The governor's last decision led everybody to _____.

The governor's last decision _____ everybody. (**confuse-v.**)

4. Some people don't mind having an _____ in a public place.

Some people don't mind _____ in the crowd. (**argue-v.**)

D. Match the words below with the words they collocate with.

tired attention certain destroy steal				
→	laptop wallet car	make look be	←	
→	country forests building	attract have pay	←	
	feel grow become get	←		

E. Complete the dialogues by using the collocations in Exercise D. You may need to change the grammar!

1. *Samantha*: Can't believe it! Someone _____ my wallet! I'm calling the police right now.

Angela: Are you sure? You should _____ certain before you call the police. Check your bag again!

2. *Liz*: I think the professor is right. You never _____ attention to the class. If you go on like this, you will fail.

George: Look Liz, I don't _____ feel good today. Don't give me a hard time, OK?

3. *Carlos*: According to the urban transformation project, the city council is going to _____ all the old buildings in town.

Ashley: It sounds good to me as long as they don't _____ the trees as well.

F. Ask the questions below to your partner. Do you agree with his/her answers? Write your partner's answers by using the bold words in the sentences.

1. Your best friend embarrassed himself in front of his girlfriend now he's dying of **shame**. What do you tell your friend?

2. You have your boss and his wife for dinner tonight. However, you **burnt** the dinner before they arrived. What do you do?

3. Your upstairs neighbor keeps **hanging** her rugs out the window and it fills your house with dust. What do you tell her?

4. Suzie, your co-worker, wants to try bungee-**jumping** and wants you to join her. What do you say?

5. Your cousin wants to be a painter and she does her best but she's not good at it. You saw some of her paintings and not really **amazed** by them. However, you don't want to disappoint her. What do you say?

* *Answers may vary.*

G. Look at the underlined letters in the word groups below. Cross out the words which are pronounced differently.

d <u>e</u> stroy
i <u>n</u> structor
terri <u>b</u> le

a <u>t</u> tention
a <u>r</u> gue
co <u>n</u> fuse

ex <u>p</u> lanation
dis <u>a</u> ppointed
cert <u>a</u> in

instru <u>c</u> tor
<u>u</u> pset
arg <u>u</u> e

Empower B1
Unit 7
Vocabulary Task

A. Read the paragraph below and choose the best meaning and correct word class (noun/verb/adj./adv.) for the underlined words in bold.

The Chernobyl accident was the worst nuclear accident in history. It didn't cause many deaths, however thousands of people were affected by its long-term effects because of deadly radiation. Shortly after the accident, three **brave** men – Alexi Ananenko, Valeri Bezpoalov and Boris Baronov volunteered to clean up the radioactive waters to prevent another accident and **secure** people's lives. The government officials didn't want them to risk their life but they were **confident** enough to perform this duty. These three men swam into the radioactive waters and managed to drain out the dirty water successfully. Days later, Alexi, Valeri and Boris were **equally** affected by the radiation poisoning and they got terribly **ill**. Soon after, they all died. People in Ukraine never forgot these heroes and they are still **proud** of them.



- | | | | |
|--------------------|------------------|------------------|---------------------|
| 1. a) noun: hero | b) adj: careful | c) adj: fearless | d) adj: adventurous |
| 2. a) adj: safe | b) verb: protect | c) verb: risk | d) noun: certain |
| 3. a) adj: sure | b) verb: trust | c) adj: helpful | d) verb: hope |
| 4. a) adv: totally | b) adj: great | c) adj: same | d) adv: identically |
| 5. a) adj: bad | b) adj: sick | c) adj: poor | d) adj: well |
| 6. a) adj: sorry | b) adv: sadly | c) verb: love | d) adj: respectful |

B. Choose the correct form of the words in the sentences and put the word forms into the chart correctly. Put an 'X' if no such form exists.

1. In order to **secure/security** your credit card, you should enter the **secure/security** code here. This way, your card can be **secure/security**.
2. It takes **brave/bravery** to save a country. Thus, Atatürk is a very **brave/bravery** man in Turkish history.
3. Still in 21st century, women in some countries are fighting for **equal/equally/equality**. They just want to be **equal/equally/equality** to man and treated **equal/equally/equality**.
4. According to a research, if you are **confidence/confident**, people think that you are beautiful. I guess self- **confidence/confident** is everything!

Nouns	Verbs	Adjectives	Adverbs

C. Which suffixes suggest which word classes? Look at Exercise B and complete the chart with the correct suffixes. An example is provided for you.

Nouns	Verbs	Adjectives	Adverbs
			- ly

D. Match the words in the box to the pictures below.

get on with	celebrity	get to know	divorce	prison	get in touch
-------------	-----------	-------------	---------	--------	--------------



_____ : to contact somebody by phoning or writing to them.

_____ : a famous person.



_____ : to spend time with somebody to learn about him/her.

_____ : a building where criminals live as a punishment.



_____ : to end your marriage.

_____ : have a friendly relationship with somebody.

E. You and your friend are paparazzi and you write for a very popular magazine. Use the words in Exercise D and the clues in the news column. You **MUST use all the words in Exercise D to complete your story.**

WOW Magazine

Celebrity Life and Style

\$3.50

Friday, May 30, 2017

THE UGLY TRUTH



The couple were only married for 15 months.

Last week,

_____.

How Did They Meet?

_____.

Did They Try Again?

_____.



Did Johnny Apologize?

_____.

Empower B1
Unit 10
Vocabulary Task

A. Read the sentences below and choose the best meaning for the underlined words.

1. Although it is illegal to sell cigarettes to children under 18, the tobacco shop in our neighborhood still does. Last week, we sent a letter of complaint to the people in authority because we are worried about our children.

- | | | | |
|----------------------|------------|---------------|------------|
| 2. illegal: | a) free | b) allowed | c) banned |
| 3. complaint: | a) protest | b) silence | c) trouble |
| 4. authority: | a) soldier | b) government | c) officer |
| 5. | | | |

2. After being unemployed for 10 months, he couldn't turn down this job offer. He didn't have any other option but to say 'yes'.

- | | | | |
|----------------------|--------------|----------------|----------|
| 1. turn down: | a) refuse | b) accept | c) take |
| 2. option: | a) advantage | b) alternative | c) right |

3. You should make a choice as soon as possible. If you break up with him, he will move away and never disturb you. He promised that he wouldn't call you or try to see you again.

- | | | | |
|---------------------|-------------|-------------|-------------|
| 1. choice: | a) decision | b) meeting | c) advice |
| 2. break up: | a) marry | b) join | c) separate |
| 3. disturb: | a) help | b) frighten | c) annoy |

4. The company sold me household goods such as wardrobes, sofas and kitchen tables. When they arrived, I saw that the wardrobe door and the legs of the table were damaged. I think it happened during the delivery. Now, I'm going to ask for a refund. I paid a lot of money for them and I want it all back.

- | | | | |
|---------------------|-----------|--------------|-----------|
| 1. goods: | a) things | b) furniture | c) items |
| 2. damaged: | a) hurt | b) perfect | c) broken |
| 3. delivery: | a) mail | b) transfer | c) flight |
| 4. refund: | a) repay | b) sale | c) salary |

5. According to a survey, many cartoons on TV are not suitable for children. The researchers describe these cartoons as 'violent' and 'harmful'.

- | | | | |
|---------------------|--------------|----------------|-----------|
| 1. survey: | a) research | b) opinion | c) test |
| 2. suitable: | a) incorrect | b) appropriate | c) enough |
| 3. describe: | a) confuse | b) ignore | c) name |

6. The dinner was **terrific** until Jenny **dropped** the soup pot on Mr. Gaviria. We had to take him to the hospital **urgently** as he was terribly burnt.

- | | | | |
|---------------------|----------|------------|----------------|
| 1. terrific: | a) great | b) fearful | c) terrible |
| 2. drop: | a) move | b) fall | c) stop |
| 3. urgently: | a) fast | b) slowly | c) immediately |

B. Put the bold words in Exercise A into the table below according to their word class.

VERBS	NOUNS
ADJECTIVES	ADVERBS

C. Rewrite the sentences by using the given form of the word. The first one is an example.

Ex: If you don't make a **choice** between the two jobs, you'll miss the chance.

If you don't **choose** between the two jobs, you'll miss the chance. (**choose-v.**)

1. We have received so many **complaints** from our customers about our new system.

Our customers _____.
(**complain-v.**)

2. What is the best time for the **delivery** of the table?

What _____ the table?
(**deliver-v.**)

3. Many people in Africa are in **urgent** need of food and water.

Many people in Africa need _____.
(**urgently-adv.**)

4. The school canteen was badly **damaged** in the fire.

The fire _____.
(damage-v.)

5. The old lady gave a detailed description of the thief.

The old lady _____ in a detailed way.
(describe-v.)

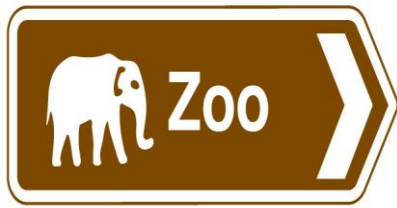


Empower B1
Unit 11
Vocabulary Task

A. Match the words in the box to the pictures.

- a. **machine:** an equipment with moving parts to do a particular job.
- b. **screen:** a flat surface on a TV or as a part of computer where you see the pictures or words.
- c. **bookshelf:** part of a bookcase to keep your books.
- d. **author:** the writer of a book, article or play.
- e. **fall in love with:** to like somebody very much and have romantic feelings for him/her.
- f. **sign:** a notice which gives information, directions or a warning.

1.



2.



3.



4.



5.



6.



B. Complete the sentences below by using the words in Exercise A and the box given. You may need to change the form of the word.

fiction	run	install	road	appear	stranger
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1. I've just ordered a bookshelf from IKEA, but actually I need somebody's help to _____ it.
2. This new machine _____ on solar power. It's environmentally friendly.
3. Kelly fell in love with a _____ again! She doesn't even know where he works!
4. J. K. Rowling is one of the best-selling _____ authors of all times. Harry Potter is a real success.
5. James never pays attention to the _____ signs while he's driving. He's so careless and I hate to travel in his car.
6. The keyboard doesn't _____ on the screen. I think my phone has broken down.

C. Circle the correct form of the word in bold and choose the best definition for the word you chose.

1. While I was walking in darkness, he suddenly **appeared/disappeared** in the doorway. I didn't expect him there.
 - a) to become visible
 - b) to become impossible to see
 - c) to let somebody watch something
 - d) to hide something
2. If you **push/break/ignore** the law, you will definitely get arrested and sent to prison.
 - a) to do something bad
 - b) to do something illegal
 - c) to do something right
 - d) to protest the law
3. The recent **develops/developments** in technology have changed our lifestyles in many ways.
 - a) to change something in a good way
 - b) to change something in a bad way
 - c) the process of changes in a good way
 - d) the process of changes in a bad way
4. After the plastic surgery she'd completely changed. I didn't **recognition/recognize** her when I first saw her.

- a) to know someone or something
- b) to accept that something is true
- c) admiration and respect
- d) the fact of knowing someone or something

5. The doctors had to see the patient's **records/recordings** before they could start her treatment.

- a) collection of music
- b) the best result in sport
- c) written documents about somebody's or something's past
- d) to save sounds or music to listen to later

6. In order to secure your position at the company, you need to **sign/signature** a contract.

- a) to give an order, make a request
- b) to show something to somebody
- c) to write your name on a paper or important document
- d) movement or sound that you make to tell something

G. CURRICULUM VITAE

PERSONAL INFORMATION

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EDUCATION

Degree	Institution	Year of Graduation
MA	Bahçeşehir University	2017
BA	Boğaziçi University	2008
HIGH SCHOOL	Düziçi Anatolian Teacher Training High School	2004

WORK EXPERIENCE

Year	Place	Enrollment
2013 - present	Bilgi University	English Instructor
2008 - 2013	Okan University	English Instructor and Deputy Coordinator Assistant

FOREIGN LANGUAGES

Advanced English, Pre-intermediate German, Novice Romanian

RESEARCH AND TEACHING INTERESTS

- Vocabulary teaching strategies
- Use of technology in English Language Teaching