

# An Extensive Review Of Literature On Teaching Vocabulary Through Mobile Applications

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## Abstract

Smartphones have turned out to be in the centre of human life covering all fields. They can be assumed as an indispensable part of our lives and furthermore they can be symbolized as a new body part of human beings. The reflections of this phenomenon in education were inevitable and smartphones have been successfully implemented into the education, especially language instruction. Mobile applications, which act as the main tools in the integration of smartphones into language instruction, have been used for various educational purposes from grammar, vocabulary, reading, listening and speaking instruction to classroom management, measurement and evaluation. Among all, vocabulary apps outnumber other skill-based apps because the functionality and facilities of mobile apps can be effectively used in vocabulary instruction. In this study, a review on vocabulary instruction and Mobile Assisted Language Learning is presented along with an extensive theoretical background.

**Keywords:** vocabulary instruction, mobile applications, MALL, smartphones

## Mobil Uygulamalar ile Kelime Öğretimi Konusunda Kapsamlı Bir Literatür Taraması

## Öz

Akıllı telefonlar, insan hayatının tüm alanlarında kendini göstermektedir. Yaşamlarımızın bir parçası haline gelmiş ve hatta insanoğlunun yeni bir organı olarak nitelendirilmeye başlanmıştır. Bu olgunun eğitime yansması kaçınılmazdı ve akıllı telefonlar, başta dil öğretimi olmak üzere başarılı bir şekilde eğitime dahil edildi. Bu süreçte, ana rolü üstlenen mobil uygulamalar kelime, okuma, dinleme, konuşma becerilerinin yanı sıra sınıf yönetimi, ölçme ve değerlendirme gibi eğitimin birçok alanında kullanılmaya başlandı. Bu uygulamalar arasında, diğer yetenek temelli uygulamaların yanı sıra kelime uygulamaları ön plana çıktı çünkü mobil uygulamaların sağladığı olanaklar ve kolaylıklar kelime öğretiminde etkili bir şekilde kullanılabilirdi. Bu çalışma, kelime öğretimi ve Mobil Destekli Dil Öğretimi konusunda literatürü tarayarak kapsamlı bir teorik çerçeve sunmayı amaçlamaktadır.

**Anahtar Kelimeler:** kelime öğretimi, mobil uygulamalar, MALL, akıllı telefonlar

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Bu makale **URKUND** programı yardımıyla intihale karşı kontrol edilmiştir.

## 1. Introduction

Language learning occupies a large part of the learning process of a learner. It is acknowledged as the most difficult and complex learning experience by most in terms of its complicated nature. Such a complicated process includes the acquisition of four major skills (listening, speaking, reading, writing) and vocabulary, pronunciation, phonetics etc. A systematic study and harmony between these factors are requirements of a successful learning process. However, it is the learning area that learners have problems most. The problems of a language learning process can be grouped into two categories; learner-based problems and teacher-based problems. Learner-based problems are the interference that stems from the learner. These problems are mainly cognitive and affective problems. One of the biggest affective problems related to learners can be considered as the lack of motivation. In any language learning process, motivation is what should be achieved first. A strong motivation makes learners move on, keeps their enthusiasm alive and acts as a driving force for them. Learning motivation is the 'fuel' of the learning process. On the other hand, lack of motivation hinders the learning progress by interfering the cognitive abilities. Thus, in language learning process having a strong motivation is crucial for learners. Another problem that learners experience is mild or severe anxiety. In language learning process, learners may feel too anxious or have too mild anxiety both of which cause negative reflections to the learning process. Anxiety can

be regarded as a tool to be used in language learning. Learners are expected to feel a bit anxious about their progress which shows that they are motivated to learn; on the other hand, excessive anxiety hinders the emergence and use of cognitive abilities. Having an average anxiety level is a necessary factor in language learning process. The last learner-based problem is the method followed or strategy adopted by learners. Since language learning is a unique process that is special to individuals and varies according to learners' specifications, no language learning method or strategy can be labelled as universal or suitable for all language learners. Present language learning methods and techniques can be grouped into two categories; academic ones and commercial ones. The first one was originated for academic purposes which are based on a scientific idea and characterized by a background study and the latter is compiled to earn money which is not scientifically valid or reliable but has been favoured by many learners because of widespread commercial advertisements. Most of the commercial language learning methods or strategies have failed to make learners acquire the language studied which results in demotivation of learners and adding up the number of people who had tried to learn a language and failed to do so. In this point, it is crucial for learners to know the characteristics of their own learning process and find the method and strategies that will comply with their learning style and help them reveal their learning power by exploiting the process to the full.

Teacher-based problems mainly stem from teachers or the methods they follow. For every teacher, it is crucial significant to be up-to-date both in their field and social reality. Teachers who cannot follow the contemporary developments in their field and apply them to their classes remain incapable of answering the learners' demands. Teachers should be one step ahead of learners in every aspect to be able to foresee the learning process and coordinate it successfully. Another problem about teachers is that most of the teachers cannot give up traditional techniques and principles. The traditional methods, strategies and techniques do not completely fit in the new learner profile and cause gaps in the teaching process. Teachers need to create their eclectic method compiled by contemporary methods considering the new characteristics of learner profiles from every aspect. Also lagging behind the technological developments is another problem for teachers. Technology has been nested in education for a long time and it is now an indispensable part of it. Learners are already acquainted with technological devices such as computer, smartphones and gadgets. At this point, teachers need to be equipped well to be able to canalize the use of technological devices into education. These problems in a language learning process, concisely categorized as learner-based and teacher-based problems, are crucial disruptors of language learning to be overwhelmed by learners and teachers both.

In a language learning process, vocabulary learning is the one that starts at the very beginning of the process and never ends since the

vocabulary in a language is unlimited. Most learners feel that the first thing to do in learning a language is learning some new words so that they can use these words to produce expressions. In other words, for learners, production means learning vocabulary. Vocabulary learning is the first and the most concrete indicator of language learning. Beginner learners motivate or demotivate themselves according to the vocabulary amount they learn at the first stages of learning a language. Vocabulary learning can be regarded as an important stage for beginner level learners in that vocabulary acts as the strongest tie between the language and the learner. In this sense, it turns out that fulfilling this stage successfully is pretty important in terms of learners' motivation to move on learning the language. So, eliminating the problems faced at this stage is another important point.

Literal vocabulary teaching is simply teaching the direct meaning of a word in a target language. This may be the word itself or a chunk. Literal vocabulary teaching has been considered important by teachers and learners. For teachers it is easy to present, practice and evaluate and for learners the feeling that they are learning the language as they learn new words is motivating. However, this first impression about the advantages of literal vocabulary instruction yields to some problems in time. The most common problem about literal vocabulary instruction is that learning occurs at short-term memory. In other words, it is inevitable to forget the words memorized in a short period of time. Learners tend to memorize the native language equivalents of words for specific purposes such

as standardized tests or school exams. In this way of learning it is generally impossible to transfer the memorized words to long-term memory unless the learners keep on dealing with the words memorized. So, the words memorized will be forgotten after a certain period of time and the learner keeps memorizing the words again. In this tiresome circle, learners begin to feel that they are incapable of learning new words and this feeling ends up in demotivation of learners. Another problem about literal instruction is that it completely relies on memorization. Memorization, by its nature, is a special technique that some are excelled more than others. Since literal learning involves memorization of the words and memorization is regarded as an innate skill, this creates an unequal atmosphere in classrooms between learners because some learners will be more talented than others in terms of memorizing the words. In general sense, this inequality is, somehow, not a problem and regarded as the reality of learning environment but when learning a language is considered equal to learning literal meanings of words, as it was in traditional methods, there lies the problem. This tendency imposes the notion that the more you memorize new words, the more you know about the language. Memorization ceases to be a tool in vocabulary teaching but turns out to be the objective of vocabulary instruction. This problem triggers another issue which could be named as the production problem. Focusing solely on literal instruction shifts the objective of vocabulary instruction from production to memorization. As a result, using the words yields to

knowing the words and this tendency kills production because learners' motivation shifts from production to memorization. Knowing the meanings of words means learning the language. Both teachers and learners may have this tendency because it looks fruitful and easy to manage. The worst problem that this perception causes is that learners just learn the literal meaning of the words, not the contextual meaning. The literal meaning and the contextual meaning of a word may be different in most cases. Word meanings may be contextually different from their literal meanings. Distinguishing this difference in meaning requires more than knowing just the literal meaning of words. It requires sentence comprehension, paragraph coherence and some other skills. Learners who just focus on memorizing the literal meaning of words have difficulty in understanding the contexts. This problem occurs especially in writing skills. Using the literal meaning of a word in writing may be misleading.

The problems in literal vocabulary teaching are important problems because vocabulary learning starts at the very beginning of language learning and generally, the first problems that learners experience are about vocabulary learning. These problems should be handled professionally and eliminated instantly so that learners do not lose their initial motivation since initial stage of language learning is a critical stage in terms of learner motivation.

Rapaport (2005) defines the contextual vocabulary acquisition as the active learning of the meaning of words in a text by using the clues in the text with the help of prior knowledge. As

Rapaport stated, contextual vocabulary learning is an active process in which learners' cognitive skills take part in along with the prior knowledge. It is mainly a learner-based process in which learners need to engage in the process as much as they can because contextual vocabulary learning relies on the principles of constructivist theory. In this process, learners are expected to construct their learning by making inferences, interpreting their present knowledge, reconsidering and re-using their prior knowledge and incorporating their knowledge on other majors. In this sense, it turns out that contextual vocabulary teaching requires learners to use cognitive skills such as guessing, inference, interpretation and so on. This sophisticated process grants learners a long-lasting vocabulary knowledge.

Such a delicate process has several problems to be dealt with. The first problem is that the learning process of contextual vocabulary is intensively learner-centred which requires high motivation and great effort. Unlike literal learning, contextual learning is a sophisticated process. The first step of being successful in this process is high motivation. Learners need to be highly motivated to work because they undergo a challenging process which holds several factors that can reduce the motivation of learners. At this point, it is the teachers' role to ensure the motivation that learners need. Also, learners' minds need to be alerted because, in this process, the cognitive skills to be used rely on an alert mind. When compared to literal vocabulary learning, in contextual vocabulary learning the workload on learner is higher. It is

this workload that makes the process problematic. The second problem interrelated with the aforementioned problem is that teachers need to be skilful enough to prepare, manage and finalize the process. Since contextual vocabulary teaching relies on the principles of constructivism and learners are expected to perform a step by step progress, teachers are expected to prepare their lesson plans accordingly. Teachers should be careful in choosing the appropriate materials for learners' level and prepare extra strategies and techniques to help learners move on when they get stuck. Well-chosen materials, detailed lesson plans and learner-centred strategies are teachers' main workload in teaching vocabulary contextually. Contextual vocabulary teaching is a sophisticated and delicate process for both learners and teachers. The third problem about contextual teaching emerges in the learning process. It can be stated that while literal vocabulary teaching is a product-based instruction, contextual vocabulary teaching is a process-based instruction. In literal teaching, learners focus on just memorizing the words which prioritize the product, in other words memorizing the meaning. In contextual teaching, the process of learning is more important than the product because in the process learners acquire some abilities and improve other language learning skills which means that the process teaches more than what is reflected in the product. This tiring and challenging process requires patience for both learners and teachers. Also, collaboration between learners and teacher is essential because the success of the process depends on this collaboration in that it

is not a simple and one-sided course to be conducted individually. Lack of this collaboration and patience may create serious problems in learning process resulting with demotivation and failure. The contextual vocabulary teaching process is encumbered with many cognitive and affective problems which are expected to be foreseen and need to be minimized. The problems at this stage should be handled delicately because this stage is where the basis of the language learning starts to be laid.

This paper aims to present a review on vocabulary instruction and Mobile Assisted Language Learning along with an extensive theoretical background.

## **2. Vocabulary Instruction**

### **2.1. Definition of Vocabulary**

In general sense, vocabulary is defined as the words in a language. While trying to explain the difference between the terms vocabulary, lexicon, lexis and dictionary, Jackson and Amvela (2007) define vocabulary as the total words stock in a language. Also, Barcroft, Sunderman and Schmitt (2011) stated a similar definition of the word 'lexis' as the entire vocabulary of a language. On the other hand, Oxford Learner's Dictionary (2016) lists three definitions for the word 'vocabulary', which are (1) all the words that a person knows or uses, (2) all the words in a particular language, (3) the words that people use when they are talking about a particular subject. According to these definitions, it can be concluded that there are the subject's vocabulary, the language's vocabulary and the person's vocabulary. The latter is the

broadest definition of vocabulary because a person's vocabulary covers the words both in the native language and target languages. Looking at the definitions above, a critical conclusion can be drawn. The word 'vocabulary' does not have the same meaning as lexis all the time. For instance, the word 'lexis' and the phrase 'a language's vocabulary' have the same meaning because lexis, as Barcroft, Sunderman and Schmitt (2011) defined, means all the words in a language. On the other hand, the word 'lexis' and the phrase 'a person's vocabulary' are not the same because a person's vocabulary is limited to what s/he knows. Another confusion about the definition of vocabulary is highlighted by Lessard-Clouston (2013) in his book. He questioned the inclusion of chunks and phrases such as 'good morning' and 'nice to meet you' into the definition of vocabulary. By supporting his idea with Alali and Schmitt (2012)'s study on formulaic sequences, which was previously known as automatic speech or emboli, he draws a broader frame to define vocabulary as the words, phrases and lexical chunks in a language.

The definition of vocabulary has gone into a shift and it seems that it has not completed its evolution. Once the popular meaning of the word 'vocabulary' as 'a list of words with explanations of their meanings, especially in a book for learning a foreign language' is labelled as old-fashioned in Dictionary of Contemporary English (2016). New studies on vocabulary would help it to develop a well-defined definition.

## 2.2. Vocabulary and Meaning

The ultimate aim of learning a language is to communicate in the target language. One of the essential components of communication is to convey the meaning. When you manage to convey the meaning in the target language, it means that you are able to communicate in it. Several factors take part in conveying the meaning, one of which is vocabulary. In his study, Wilkins (1972) summarizes this notion as “without grammar very little can be conveyed; without vocabulary, nothing can be conveyed.” So, it turns out that vocabulary knowledge is the precondition of conveying the meaning. When it’s about conveying the meaning, an important prerequisite should be taken into consideration, which is understanding the meaning. Before conveying the meaning, speakers have to understand it first, which can be achieved with adequate vocabulary knowledge. This problem constitutes the basis of Biemiller et al. (2014)’s study and they see the determining word meaning as a major practical problem. This problem is addressed also in Kominsky and Keil (2014)’s study and they try to show how much learners depend on external sources to understand word meanings. External sources help learners to derive the word meaning but at the same time, they can interfere in the deriving of the meaning. Another study by Kaivanpanah and Alavi (2008) defines this problem as incomprehensibility problem caused by unknown lexical items in the input by referring to Krashen (1985)’s The Input Hypothesis. According to The Input Hypothesis, the input should be comprehensible to be acquired. Vocabulary

knowledge acts a significant role in making the input comprehensible for learners.

These studies show that vocabulary is crucial in deriving the meaning first and then conveying it. The direct and close relationship between vocabulary and meaning promotes the significance of vocabulary instruction and vocabulary learning.

## 2.3. The Role of Vocabulary in Second Language Acquisition

Language learning covers a huge part of a person’s learning process and it can be accepted as the most challenging and sophisticated learning field. If we assume the language learning as a whole tree, vocabulary learning constitutes the body of this tree along with some other significant skills. A strong tree requires a strong body. A successful learning experience depends on a rich vocabulary knowledge.

Second language acquisition is a disciplined process that is formed by some stages, each of which has a unique nature. The importance of vocabulary in this process is a gospel truth. In his study, Barcroft (2004) defines vocabulary acquisition as a central component of SLA and draws attention to the increase in studies which investigate the importance of vocabulary instruction in SLA in the past two decades. Another study by Khoii and Sharififar (2013) labels vocabulary instruction as the core component of language proficiency and the basis of communication. The fact that vocabulary knowledge is a crucial factor for a successful communication has been studied and compro-

mised by many researchers. One of these researchers, Krashen (1989) accepts that vocabulary is essential for the mastery of language and supports this idea with a statement that learners carry dictionaries with them, not grammar books, which is a clear indication that learners need words rather than grammar rules. At the very beginning, there was a tendency that grammar instruction is the basis of language learning and thus communication. The focus was intensely on grammar. With the contribution of new researchers showing the significance of vocabulary in communication, the focus has shifted from grammar to vocabulary. Vocabulary started to be investigated by researchers and SLA field engaged into a renovation process. Language programs, curriculums and methods started to give a wide coverage to vocabulary instruction. As Wharton (2010), stated in his study, material developers noticed how essential vocabulary is for language programs. Also, this shift was noticed by Thornbury (2006) and in his book, he draws attention to the yielding of grammar-based syllabus to lexical syllabus that intensely focuses on vocabulary. He presents the advertorial claims of the new editions of famous textbooks to show how vocabulary takes the lead from grammar. The claims are as follow: (1) strong emphasis on vocabulary with a particular focus on high frequency, useful words and phrases (Cutting Edge Intermediate). (2) Well-defined vocabulary syllabus plus dictionary training and pronunciation practice, including the use of phonetics (New Headway English Course). (3) a strongly lexical syllabus, presenting and practicing hundreds of

natural expressions which students will find immediately useful (Innovations). As can be understood from these claims, vocabulary instruction gained an important position in SLA. Another study that questions why vocabulary knowledge is a major factor in linguistic competence was conducted by Anderson and Freebody (1979). They put forward that three hypotheses are significant in vocabulary instruction, which are; instrumentalist hypothesis, aptitude hypothesis and knowledge hypothesis. Instrumental hypothesis, briefly, claims that the richer vocabulary you have, the more you can understand a text. This hypothesis shows the direct relationship between vocabulary knowledge and text comprehension. Aptitude hypothesis relates to discourse comprehension. It claims that there is a direct relation between the vocabulary knowledge and mental agility. Vocabulary knowledge fosters mental agility and this helps learners build better discourse comprehension. Knowledge hypothesis is related to the cultural comprehension. Vocabulary knowledge presents learner deep cultural references and cultural knowledge is a tool to understand texts. This study suggests that vocabulary knowledge has considerable effect on other skills.

The ultimate aim of foreign language learning is to be able to communicate in the target language. As Krashen (1985) formulated, communication is an input-output issue. Vocabulary knowledge plays a crucial role both in decoding input and creating the output.



## 2.4. Components of Vocabulary Learning

Since vocabulary learning is the initial phase of language learning process and acts a crucial role in the success of the process, it has several components each of which deserves a lengthy explanation. These components will be introduced under two categories; components belonging to first language learning and components belonging to second language learning. The reason why the components of first language learning are included is that when it's about vocabulary learning, second language learning relies much on first language learning.

Language acquisition of a baby is a phenomenon that scientists are still unable to fully figure out. This process contains several components, but it can be squared away as labelling, categorizing and network building. Labelling is the first input for a baby in vocabulary learning usually done by the parents. Labelling is generally a subconscious act that is submerged into parental speech, but babies manage to discern what is labelled. This labelling process is the first input source for the children and starts to fill the vocabulary pool of them. With time, as the number of labels increase, children start to categorize the labels which are the first phase of contextualization. The study of Poulin-Dubois, Graham and Sippola (1995) shows us that this labelling and categorization processes constitute the scaffold of vocabulary learning in accordance with language learning. The last component of first language learning is network building. After successful labelling and categorizing processes, learners start to build a network. Aitchison (2012) defines the network

building process as discovering the relations between words. This process requires high language skills and emerges at the later stages of the learning process. It grants learners the ability to infer the meanings of words on their own by making inferences with the help of the vocabulary network they built.

Second language learning follows nearly the same way as the first language learning but this time with the help or interference of the first language. With slight changes in order or effect, labelling, categorizing and network building are valid components of second language vocabulary learning. With the help of the first language background, learners may start to build network after labelling process or on the contrary first language knowledge may manipulate network building process by false friends. Apart from these components, encoding and associating stand out in second language vocabulary learning (Thornbury, 2006) because these processes work when there is background knowledge and a mental consciousness level. With the help of the first language background and their present consciousness level, learners can make encoding and association of the words by helping them create their mental lexicon which is defined by Marslen-Wilson et al (1994) as what words sound like and mean for learners.

## 2.5. Incidental and Direct Vocabulary Learning

Language learning is the richest learning area in terms of the learning strategies that it embodies, and in vocabulary learning has several unique learning strategies. These learning

strategies can be grouped into two main categories as incidental and direct vocabulary learning. These approaches constitute the roof of all vocabulary learning strategies. There has been a controversy on the effectiveness of these two approaches and there are several studies indicating the effectiveness of both methods separately. In this part, a contrastive review of incidental and direct vocabulary learning will be presented.

Nagy (1995) describes direct vocabulary learning as focusing on the form and meaning of the words. Direct vocabulary learning is regarded as the traditional method which is mainly based on the memorization of the target words by activating the short-term memory. As it's clear from its name, it involves directly learning the meanings of the words. It mainly relies on the memorization of words by using specific techniques such as repetition and drills that serve the same purpose. For many years, direct vocabulary learning has been used by learners and teachers but has led to some controversies from some aspects. There are several studies that favour the effectiveness of direct vocabulary learning. In their experimental study, Sonbul and Schmitt (2009) collate two approaches and highlight the importance of time and effort that is gained with direct vocabulary learning in the teaching of lexical items in EFL classes. Holmes (1934) compares the direct teaching of the meanings of unfamiliar words and extensive reading studies to teach vocabulary. At the end of the study, she draws several consequences that show the success of direct

vocabulary instruction over incidental vocabulary instruction. It turns out that though it is a traditional approach, direct vocabulary learning is not an old-fashioned one. In most countries, there are standardized tests that contain multiple choice vocabulary questions from a pre-defined vocabulary syllabus. In such tests, attendees mostly prefer to directly memorize the meanings of words and this strategy works in certain ways because here the aim is not to contextually acquire the words or create a mental lexicon but memorize as many words as possible to be successful in standardized tests. Smith, Kilgarriff and Sommers (2008) criticize the government policies on promoting this kind of standardized test and favour the effectiveness of direct vocabulary learning in such tests. Similarly, Tabrizi and Feiz (2016) conducted a study that investigated the effects of direct vocabulary instruction and incidental vocabulary instruction in a standardized test and according to the result of their study, the group that used direct vocabulary instruction significantly outperforms the other group. Therefore, direct vocabulary learning is not an approach to be underestimated completely, but it should be implemented into the learning process by taking some issues into consideration such as target group, teaching strategies and purpose of the study.

Incidental vocabulary learning is simply defined by Nagy (1995) as learning vocabulary from the context. In other words, it involves learning words indirectly through high exposure to the language. Here, the keyword about incidental vocabulary learning is 'indirect' which highlights the subconscious nature

of it. It is mainly a subconscious process making the learning more permanent. In vocabulary learning, it is highly preferred by learners and teachers because of its advantages and there are several studies showing the advantages and its superiority to direct vocabulary learning (Rashidi and Ganbari 2010, Ahmad, 2011, Alipour, Barati and Nasirahmadi, 2015). These studies mainly focus on teaching vocabulary through reading experiences. Another study by Shahrzad and Derakhshan (2011) showed the success of incidental vocabulary learning in TOEFL vocabulary test. Huckin and Coady (1999) considered the issue from a different perspective and they reported that vocabulary learning in L1 is mostly incidental and also L2 vocabulary learning is considerably incidental, too. It is obvious that the results of the most comparative studies stress the success of incidental vocabulary learning over direct vocabulary as it has several advantages. First, incidental vocabulary instruction promises permanent learning by triggering long-term memory. Second, it grants the learners the ability to infer the meanings from context. In time, learners can guess the meanings of words with the help of the way of thinking that they are accustomed to. Third, it makes vocabulary instruction more inclusive by integrating it into the other skills and by this way making it easier because learners do not have to deal with learning vocabulary as a separate skill. Lastly, it makes the learning process more learner-centred because unlike direct vocabulary instruction which underestimates individual differences, incidental vocabulary instruction enables learners to find their own learning speed and style. It establishes a strong connection between

learner and teacher by promoting collaborative work. Though it is highly favourable and has lots of advantages, it has several disadvantages, too. First, it requires hard work for teachers. Teachers need to decide learner levels, choose appropriate context, decide the suitable procedure and foresee the problems. Bensoussan and Laufer (1984) highlighted the same problem and put forward that the contextual information in the context may be unclear. Here, another problem for teachers is wrong inferences. Learners may not infer the meaning of a word correctly and may misuse it. Teachers need to be careful about this problem. Also for learners, the beginning levels require much effort till they get accustomed to the learning experience. Second, it requires high exposure to language and high linguistic skills such as inference, association, encoding etc. learners' individual differences show up and teachers need to keep the balance. Lastly, it requires a long-term study to see the results of the study. It is not suitable for short-term result.

According to the report of National Reading Panel (2000), there is a clear need for both direct and incidental vocabulary instruction since they can particularly serve different purposes. What is necessary is to adopt an eclectic method combining both direct and incidental vocabulary instruction according to the learner, syllabus and environment.

## **2.6. Methodological Perspectives to Vocabulary Teaching**

The development of methodology in language teaching dates back to 1930s in which

language learning did not have a specific methodology but mostly relied on the principles of main theories like behaviourism and cognitivism. In time, language teaching required specific principles and new approaches following the principles of main theories above started to emerge. The shift from grammatical syllabus to communicative syllabus caused to generate more approaches.

All theories and approaches gave a wide coverage to vocabulary teaching since it is one of the main units of both literal and communicative instruction. The importance of vocabulary instruction was highlighted at the very beginning and special drills were included in each approach. All theories regard the lack of vocabulary instruction as an obstacle in language instruction and that is to be enriched.

The first systematic methodological approach to language instruction is regarded as Grammar Translation Method. In GTM, the main purpose of language instruction is the proficiency in reading the literature of a target language. The main criterion for success in GTM is the ability to translate the texts. Thus, primary skills to be developed are reading and writing. Oral communication is not the focus of language instruction (Larsen-Freeman and Anderson, 2013). Since the main goal of GTM is to read in the target language and the main criterion of success is translation, vocabulary plays a significant role in the teaching process. Vocabulary is introduced literally by bilingual word lists. Dictionary study and memorization are main vocabulary learning strategies in GTM (Richards and Rodgers, 2014). Although it is an

outdated approach, GTM is still used as a practical approach to learning environments where translation is the main objective, not communication (Sapargul and Sartor, 2010).

Beginning in the 1910s through 1920s, there occurred a need to use the language for communicative purposes effectively. GTM did not answer this need and The Direct Method began to shape along with this notion. Still, under the influence of GTM, DM favoured that language is primarily speech. Also, reading skill is another important skill which is to be mastered along with speaking. Unlike GTM, DM criticizes literal vocabulary instruction with memorization and bilingual word lists and offers a natural way of learning by using words in full sentences. This principle can be regarded as the basis of contextual vocabulary instruction. DM emphasized vocabulary instruction over grammar which led to a special interest in vocabulary instruction. DM made the first efforts to create a scientific basis to vocabulary instruction and with DM, vocabulary was accepted as an important aspect of language instruction and required a deeper scientific study other than simply introducing the literal meaning of words (Zimmerman, 1997).

The Audio-Lingual Method can be regarded as the first language learning approach that is based on the principles of modern linguistics and is a practical approach emerging through World War II with the aim of teaching language communicatively in a short time. It is based on behaviourism, thus accepts language learning as habit formation. What is unique about ALM is that it acts as a bridge between

traditional and contemporary. ALM defines the main objective of language learning is to be able to communicate in the target language. It relies on the teaching of structures in a process in which good habit formation is achieved by certain repetition drills. In this system, the structural instruction is emphasized over vocabulary instruction. First, learners focus on structures and then there comes the vocabulary instruction. Dialogues are used as an effective tool and vocabulary is introduced through dialogues. Learners work on dialogues thoroughly and teachers use certain drills such as repetition, backward build-up, chain, question-answer, transformation and substitution on dialogues. Transformation and substitution drills mainly focus on the improvement of vocabulary knowledge. But ALM underestimates the vocabulary, thus vocabulary is kept the minimum in the phases where learners study on sounds and grammatical patterns (Larsen-Freeman and Anderson, 2013).

Originated by Caleb Gattegno, The Silent Way emerged as a reaction to ALM's behavioural perspective to language teaching and adopted a cognitive approach to learning. Rather than forming a habit formation, SW tried to help learners to develop an 'inner criteria' in language learning process in which they can self-control their progress. SW assumes that learners already come with an experience of learning a language and what is necessary is to help them remember their experience. The syllabus is composed of linguistic structures and there is a special interest in sounds because SW favours that learners need to learn the melody of

language at the very beginning. So, in the beginning phases, pronunciation is praised, and vocabulary is restricted. SW tends to restrict vocabulary in the teaching process. In the introduction of new vocabulary, SW uses unambiguous situations and structures that are already mastered because it adopts a way from known to the unknown in teaching process (Gattegno, 2010).

Total Physical Response by James Asher combines the cognitive and kinaesthetic way of learning in language instruction. It simply follows a listen-respond sequence. The ultimate aim of TPR is to get learners speak in the target language but before speaking phase learners are expected to develop an understanding of the target language. This is achieved by reducing the stress of learners by activating their physical participation in the process. Learners are not expected and forced to speak at the beginning stages and they speak when they feel ready. Modelling is an important tool in TPR. Teachers issue the commands and learners perform the actions. In TPR imperatives have a significant place and the vocabulary instruction is mainly embedded in imperatives. Grammar and vocabulary are emphasized over other language skills because they act as the skeleton of language instruction. TPR opposes the memorization of vocabulary but it promotes the memorization that is later activated by actions which activate the right hemisphere of the brain and facilitate permanent learning. Also, in vocabulary instruction, what matters is teaching chunks, not word by word instruction (Asher, 1981). In this way, learners associate the words

together and perform the actions that are associated with the meaning of the words.

Community Language Learning approach, as can be understood from its name, praises the notion of community in the learning environment and accordingly promotes interaction. Its basis depends on counselling approach and natural approach. CLL tries to get learners to speak in the target language. To do this, CLL emphasizes that learners need to feel secure and build a relationship during the learning process. The authority of teacher is regarded as a threat to this secure atmosphere of the learning environment, so teachers act as a background counsellor. It is accepted that when learners know the limits of the learning process, they feel more secure. Thus, the syllabus is composed of what learners know. Vocabulary is studied by chunks and it is based on what learners have studied before. Although it can be counted as a contemporary approach, it permits the use of native language and vocabulary is introduced by literal explanations of words. CLL attempts to make the meaning clear in every case and in vocabulary instruction CLL uses bilingual word lists to make meaning clear.

Suggestopedia, originated by Georgi Lozanov, was an effective method during the 1980s. Suggestopedia emphasizes the psychological nature of learning process. It highlights the importance of lively learning environment and learners' psychology. Unlike CLL, the teacher is an important figure in learning environment and learners are expected to trust teachers' authority because teachers act as a tool to help learners break the barriers they have

built in their learning experience. Vocabulary is presented by teachers in texts and important words are emphasized in bold so that learners can establish a connection between parts and the whole. Teachers do not dwell on vocabulary but expect it to be subconsciously acquired by learners. Suggestopedia tries to make the meaning clear by using literal translations. Accordingly, it is intended to acquire as much vocabulary as possible in this method (Larsen-Freeman and Anderson, 2013).

Communicative Language Teaching embodies the principles of most contemporary communicative methods. Its ultimate aim is, as its name indicates, to make language a communicative device. To do so, it relies on the authentic language, which is described as the natural language in life itself, not a prepared context for learning process but a real one. In language learning process, the communicative purpose of the language is praised while mastery of the language forms is regarded less important. Learners are expected to express themselves without fear of making errors because errors are regarded as a natural outcome of the learning process, thus tolerated. Since communication is the main purpose, vocabulary has a crucial importance in CLT in that speaking performance highly depends on learners' vocabulary knowledge. CLT does not have a fixed vocabulary syllabus but it lets an automatically generated vocabulary formed according to the need of learners and that is relevant to their interest (Littlewood, 1981).

Content-Based Instruction which attracted great attention worldwide offers a fast

and effective language learning process by narrowing the process down the specific purposes. Teaching is built according to the learners' needs, levels and their previous knowledge. CBI varies and enriches the scope of language learning and it lets learners and teachers shape learning process depending on the skills and purposes (Crandall, 1999). For vocabulary instruction, CBI is regarded as one of the most effective methods because vocabulary is built according to the need of learners, accordingly, they will be familiar with the vocabulary or there will be contextual clues in the learning process to help them convey the meaning.

Task-Based Language Teaching emerged as a systematic approach which has an individual nature letting learners see and decide their performance. TBLT strongly emphasizes a functional language use relying on the 'tasks' (Ellis, 2009). The teacher prepares the tasks with clear instructions and learners complete the task by writing a report at the end including what they've learned. The final report is an important tool for the teacher to know about the learning process and give feedback about what to work on. In TBLT, vocabulary is praised over grammar in tasks and vocabulary is mainly studied in pre-task phases (Ellis, 2003). Also, TBLT converts the nature of vocabulary learning from translation and memorization to a collaborative and interactive one with the help of tasks (Sarani and Sahebi, 2012).

The Lexical Approach can be regarded as the first comprehensive vocabulary teaching approach. Before LA, language teaching methods accepted vocabulary learning as a cognitive

process based on the acquisition or learning of words and using them in a context. LA shared the same principle, but it transformed the notion of word learning into 'chunk' learning. Lewis and Gough (1997) first described The Lexical Approach around the notion that 'language is mainly the multi-word chunks, not as traditionally described grammar and vocabulary. These chunks (lexical phrases) are pre-fabricated multi-word phrases such as compound words, phrasal verbs, collocations, functional phrases, idiomatic or fixed expressions (Harmer, 1991). LA focuses on the teaching of chunks rather than the words alone. As most contemporary methods do, LA rejects the idea that language mainly consists of grammatical structures. At a first glance, it may seem that LA promotes grammar over vocabulary since the chunks contain not only words but grammatical structures, but LA integrates grammar subconsciously into the chunks. In other words, LA highlights a lexicalized grammar rather than grammaticalized lexis. Here, the focus is on the chunks, not on grammar which enables the deduction of grammar subconsciously. Another achievement of chunk-based learning is the fluency in speaking performance. It has been widely discussed that the traditional grammar-vocabulary instruction has considerable disadvantages on speaking production, especially on fluency as Krashen discussed in his Acquisition and Learning Hypothesis. LA's chunk-based instruction is an effective way of speaking fluency since it triggers a subconscious automatic cognitive process by shortening the processing time in mind. The idea of item learning, rather than the rule learn-

ing is the key feature of LA in terms of the processing time of speaking production in mind. LA adopts a semantic syllabus which means syllabus is formed according to the meaning and based on a lexical focus. As stated above, LA regards that meaning is encoded to words, not grammar. Accordingly, this means that using the most frequently used words in the target language is a good way of forming syllabus because meaning can be best conveyed through these words which are called high-frequency words (Thornbury, 2006).

Though it is not a systematic technique, The Literal Technique has been used widely and effectively since the beginning of language teaching. It involves the memorization of native language equivalents of the target language words. The advantages and disadvantages of The Literal Technique have been discussed for ages and each method or approach set their principles for this technique. Though it lacks pedagogical value for researchers, it deserves to be discussed in this study because, with the emergence of Web 2.0 and the spread in individual learning strategies, it started to gain importance again. Before inspecting the current perception to Literal Technique, it would be beneficial to look at its historical background. The Literal Technique is regarded as the ancestor of vocabulary instruction. It had a crucial role in Grammar Translation Method. In GTM, vocabulary instruction comes after the grammar and it is performed with bilingual word lists. For ages, the literal technique dominated the vocabulary instruction. After the emergence of communica-

tive approaches, literal technique yielded its position to contextual approach, but the effect of literal technique continued for years and it turned out to be a technique in contextual approach.

As the learning techniques started to be individualized, learners have looked ways for the best learning experience that is suitable for their individual differences. Methodological rules and principles were ignored, and instead faster and easier ways of learning language started to gain acceptance. The literal technique was the one that was affected from this tendency most because, though it is methodologically heavily criticized, it has turned out to be a language learning habit for learners with its satisfactory and instant results. Flashcards which are the most significant tool of literal technique gained considerable importance and were approved by both learners and teachers. Mobile apps for language learning which were mostly developed by users, not language experts, ignored methodological principles and adopted pragmatic principles such as learning easily and learning faster. In this perspective, the literal technique has shown up again in the learning process.

The literal technique had been very popular in vocabulary instruction before the emergence of communicative approaches. At the beginning, the literal technique offered an easy instruction and it was time-saving. But with time, many researchers conducted significant researches on the disadvantages of word memorization and accordingly communicative



approaches disapproved direct word memorization and favoured contextual word learning. The focus in word learning shifted from memorization to inference. In their study, Cunningham, and Arthur (1981) described the contextual approach as learning to make inferences with context clues to be able to infer the meaning of the word from context. As the studies on contextual approach had increased, there occurred a concept of contextual vocabulary acquisition. Rapaport and Kibby (2010) defined contextual vocabulary acquisition as the reader's ability to figure out the meaning of a word from context using the clues in the context without getting help from external sources such as a teacher or from a dictionary. Here, with the contextual approach, word learning yielded word acquisition because contextual approach promised a metacognitive process including guessing, inferring and verifying.

Contextual vocabulary acquisition has become the core concept of researchers in vocabulary instruction. Many studies were conducted, and the success of contextual vocabulary acquisition was proved in many studies which will be discussed in the literature review section. As mentioned above, CVA has a metacognitive nature and relates to many factors such as learner's level, background knowledge, inference ability, textual knowledge, etymology, morphology, lexicology, grammar and so on. Learners are expected to meet all these conditions to be able to infer the meaning of a word. When it is to infer the meaning of a word, the content of the text helps learners to trigger their background knowledge about the topic. Learner

remembers the similar words from his/her prior knowledge. He/she looks at the root, suffix, prefix or morpheme of the word. Also, sentence grammar may help learner about the meaning of the word. All these procedures end up with an inference that is either correct or not. At first glance, this procedure looks tiresome, time-consuming and not guaranteed but in time it grants learners an insight about inferring the meaning of words. As Rapaport and Kibby, (2002) stated people know more words than they are explicitly taught. This statement is the result of a successful contextual vocabulary acquisition.

### 3. Mobile Assisted Language Learning

Behaviourist theory has been influential for many years in the field of language education as it is in every area. For many years Grammar Translation Method has maintained its existence by adopting the principles of behaviourist theory. After this period, language education has undergone some radical changes to this day. The first of these changes occurred in the transition from behaviourism to cognitivism. This controversial transition process has been completed with the victory of cognitivism. But the victory of cognitivism did not last long; constructivism took the place of cognitivism. In addition to these theoretical changes, technical changes have also been experienced. The first of these technical changes was the use of computers in language education. Computers have caused significant changes in the language education process. With the use of computers, significant opportunities have been obtained in terms of material use and time allocated to language education. Another radical change is that

mobile phones have taken the place of computers. Smartphone use in language learning caused the emergence of Mobile Assisted Language Learning. Valarmathi (2011) defines MALL as an approach to language learning that is assisted or enhanced through the use of mobile phones. Two keywords in this definition here constitute the basis of the MALL; to assist and to enhance. Miangah and Nezarat (2012) expand the scope of MALL and add new attributes to MALL such as personalized, spontaneous, informal and ubiquitous. Also, Czerska-Andrzejewska (2016) stresses the borderless nature of MALL in terms of time and place. Looking at these definitions, it can be concluded that MALL is a personalized approach which removes the border of time and place by assisting teachers and learners to enhance the learning experience.

### 3.1. From CALL to MALL

After the invention of the first private computer, computers were started to be used in daily life and inevitably for educational purposes. It did not take long for computers to be used in language learning. The use of computers in language learning resulted in the emergence of Computer Assisted Language Learning. Levy (1997) defines CALL as "the search for and study of applications of the computer in language teaching and learning". Jones and Fortescue (1987) find this traditional definition of CALL as inadequate and make a broader definition of CALL as using computers which are versatile teaching and learning tools for both teachers and learners to be used in and out of the

classroom for a variety of ways and for any educational purposes. In his distinctive study on CALL, Warschauer (1996) mentions three types of CALL; behaviourist CALL, communicative CALL and integrative CALL. As its name signals, behaviourist CALL adopts the principles of behaviourism and the function of computers is mainly on drill and practice exercises. Communicative CALL, emerging through 1970's, rejects the use of computers only for practising purposes and stresses cognitive nature of computer use in learning by activating learners' cognitive skills and enhancing interaction. Integrative CALL expanded the scope of the communicative call to every skill and disciplines. The objective of integrative CALL is to integrate various skills and disciplines by encouraging the authentic use of language. Along with this methodological categorization, CALL can be divided into three periods according to the use of computers which are computers as a tutor, computers as stimulus and computer as tool respectively. In a very short time, CALL was favoured by both teachers and learners and was used increasingly. It has worked very well in engaging, studying and activation parts of the learning process. With its time-saving, rich, productive, easy and effective nature, it has turned out to be an indispensable part of language education. CALL caused radical changes in curriculums and syllabuses in terms of objectives, durations, material use and evaluation because CALL deeply affected every phase of language learning process. Everything had been going pretty well for computers until 2007 in which Steve Jobs introduced the first fully functional smartphone. Before iPhone,

there were smartphones, but iPhone is regarded as the first smartphone that has advanced computing abilities and other features that computers can do. After the introduction of iPhone and Google's Android operating system, smartphones have turned out to be small devices that are capable of doing anything that a computer can do. Moreover, they are smaller, affordable and more functional than a computer. In a very short time, Smartphones have taken the place of computers. According to the study of Tuik (2017), while the percentage of mobile phone availability in households in Turkey is 53,7 in 2004, the percentage rises to 96,9 in 2016 and the desktop computer availability increases from 10,0 to 22,9 in the same years. This shift in technology use inevitably echoed in education and MALL started to be favoured by teachers, learners and researchers. But still, CALL is predominant in terms of academic studies. While the search results of the term 'Mobile Assisted Language Learning' gives 14,600 results for the year 2017, the search results of the term 'Computer Assisted Language Learning' is 26,300 for the same year in Google Scholar. On the other hand, increasing application count in Google Play (30,000 in 2010; 2,800,000 in 2017) shows that mobile application is increasingly being used in every field of life.

### 3.2. Mobile Learning

Mobile learning, mainly shortened as m-learning, has been used since the integration of mobile phones into education which dates back to late 1970's. Mobile learning was divided into two distinct periods; before

smartphones and after smartphones. The invention of smartphones radically changed the nature of mobile learning. Before smartphones, due to the restrictions of mobile phone use, mobile learning remained uncommon, unaffordable and inflexible. But with smartphones, mobile phones have turned out to be versatile devices and this radically changed the nature of mobile learning. After smartphones (2007), mobile learning gained great momentum in education and academic studies. Google Scholar lists 3,960 results for the keyword "mobile learning" from the beginning to 2006 in which one year before the emergence of fully functional smartphones. Similarly, between 2006 and 2017 Google Scholar lists 22,500 results for the same keyword which indicates that the emergence of smartphones granted significant importance to mobile learning. The most distinctive and detailed description of mobile learning was made by Sharples, Taylor and Vavoula (2010). In their study, they defined mobile learning as an approach that significantly differs from the current theories of the classroom, accounts for the mobility of learners, covers both formal and informal learning, theorises learning as a constructive and social process, and analyses learning as a personal and situated activity mediated by technology. This broad definition successfully reveals all the aspects of mobile learning. Besides this definition, Traxler (2007) put forwards ten characteristics of mobile learning as "personal, spontaneous, opportunistic, informal, pervasive, situated, private, context-aware, bite-sized and portable". Mostly, all these factors are necessary to conduct a successful mobile learning process. Since mobile learning

highly depends on the use of technology, it requires special attention not only to educational principles but also technical details, too. In line with this perspective, Naismith and Corlett (2006) put forwards some critical factors for a mobile learning project to be successful, which are access to technology, ownership, connectivity, integration, and institutional support. We can see the best example of the multi-disciplinary approach in mobile learning since it is related to education, technology, and several environmental partners.

### **3.3. Autonomous Learning**

Learner autonomy started to be studied increasingly after the emergence of communicative and constructive approaches. First of all, there is a need to define what autonomy is. Many researchers attempted to define autonomy and similar definitions were made. One of the most detailed definitions of learner autonomy was made by Littlewood (1996). He defined autonomy as the composition of willingness and ability and categorized autonomy under three parts; autonomy as a communicator which means using the language communicatively, autonomy as a learner which means the ability to engage independent work and autonomy as a person which is the ability to create personal learning context. Autonomous learning can be regarded as the basis of individual, personalized and constructive learning. Autonomous learning is roughly learners' taking control of their learning process. The question here is to what extent? Should this process be fully self-directed or covertly supervised? Since autonomous learning is a significant concept of mobile

learning, this question is valid for MALL, too. The range of learner autonomy generally depends on the level, age and motivation of learners and convenience of learner environment. The role of learner autonomy in MALL will be thoroughly discussed in The Influence of MALL on language teaching section.

### **3.4. Web 2.0**

Web 2.0 is one of the most significant concepts of MALL which grants smartphones a comprehensible computing ability and practicality. The emergence of Web 2.0 caused radical changes in internet use and accordingly on learning and teaching strategies. In line with the new features generated with Web 2.0, new techniques and strategies were developed and adapted to contemporary approaches. Web 2.0 has been the focus of many academic studies and the first and well-accepted definition of Web 2.0 was made by O'reilly (2005) in a brainstorming session of a conference as a new network platform that spans all connected devices by letting individuals provide their own data and services to this new platform. Before giving more details about Web 2.0, there's a need to take a look what it like before Web 2.0. The period before Web 2.0 is named as Web 1.0. Web 1.0 started with the use of the Internet and it has a one-way interaction, from provider to user. The user interaction of Web 1.0 was very limited, and it had a static and single-directional nature. The main usage of Web 1.0 was to publish and provide information to users. The transition to Web 2.0 was a revolution in the Internet world; it completely changed the nature of web usage and perception. The main point that Web

2.0 gifted to the Internet community was the user interaction. Unlike Web 1.0's read-only structure, Web 2.0 granted users to add information, make changes and contribute to the web contents. Another important revolution of Web 2.0 is peer to peer connection, which ended up with the emergence of online communities and social networks. Also, Web 2.0's user-friendly and updateable structure attracted users to take part in Internet communities. In a very short time, these innovations affected educational systems by generating new concepts such as individual or personalized learning, autonomous learning, online learning, situated learning and so on. All these concepts had a significant impact on educational principles and mostly turned out to be important contributions. Web 2.0 brought several contributions to learning and teaching process. First, it offered a vast amount of material use with the help of its sharing facility. Teachers all around the world can share their materials with each other. Second, it removed the boundaries of school and time which reflected on education as anytime-and-anywhere principle. Third, it helped teachers to evaluate learners easier, faster and more accurately and gave the learners the opportunity to self-evaluate. Also, the evaluation type shifted from product-based to process based. Next, learners had the opportunity to find their learning style and learn how to learn by learning how to construct knowledge. Finally, the enhanced learner interaction enabled learners to help and learn from each other and be a part of a learning community. The contributions of Web 2.0 to education are countless because of its updated and dynamic nature.

### **3.5. The Influence of MALL on Language Instruction**

MALL has been considered to have a deep impact on language instruction in terms of principles, techniques, strategies, teacher and learner roles, material use and evaluation process. In this section, the influence of MALL on language instruction is discussed under four categories; (1) the influence on the characteristic of teaching and learning process, (2) the influence of four skills which includes speaking, listening, reading and writing, (3) the influence on grammar instruction, and (4) the influence on vocabulary instruction.

#### **3.5.1. The Influence on the Characteristic of Teaching and Learning Process**

MALL owes its influence on the functionality of mobile devices, relatively to smartphones. The features that ensure this functionality were described under five main titles in the research of Klopfer, Squire, and Jenkins (2002) which are; portability, social interactivity, context sensitivity, connectivity and individuality. These features embody the main characteristics of mobile devices and accordingly MALL. With the emergence of MALL, the language instruction gained a new momentum experiencing new changes in its characteristics. The above-mentioned features of mobile devices have a direct effect on language instruction. First, portability function of mobile devices helped learning process develop a ubiquitous characteristic. Since learning environment is carried into mobile devices and learners feel free to use them anytime and anywhere, learning process can be experienced outside the

classroom. By this way, an uninterrupted and continual learning is achieved. Second, mobile devices increased the scope and availability of the interaction between environmental agents that are teachers, peers or any other agents that learners need to interact in learning process. Moreover, the amount and the scope of this interaction are limitless; it can be an in-class interaction or an overseas one. The interaction function promoted collaborative learning, specifically peer learning. Third, accessibility feature of mobile devices nurtured the diversity of learning process in terms of learner style. In other words, with mobile devices, learners find the chance to easily access any content related to their learning process in line with their learning style, which granted an individualized learning to the learners. Before, learners were confined to the style and the materials that teachers had chosen for them neglecting the individual differences of learners, but with mobile devices teachers had the chance to act more flexible about learners' individual differences. The reflection of this can be clearly seen in material use. Teachers can offer different kinds of materials to learners and learners can find materials themselves with the help of accessibility function of mobile devices. The connectivity and accessibility features of the Internet helped to comprise an immense material pool where anyone can reach anytime, and the mobile devices are the tools that establish access to this pool. Fourth influence was seen on teacher roles and learner roles. Traditional teachers adopted a role of an authority in the learning process, designing, conducting and evaluating it at the same

time. With the widespread acceptance of constructivist approach, teachers tended to be a counsellor rather than being the authority in class. MALL adopted the counsellor teacher role of constructivist approach and made a few updates in teacher roles. The most significant feature of MALL teachers appeared to be interaction. With the help of mobile devices, teachers had the chance to establish interaction with and between learners letting them set up their learning environment, syllabus, techniques, materials and homework considering the high interaction chance. Universally, the main technique of teachers is to make learning relevant to learner's background, needs and environment. MALL can be regarded as one of the best approaches to do so because with the help of mobile devices teachers can offer learners an individualized context or teach them how to access relevant content. As for learner roles, MALL updated major learner roles, too. When language learning process is considered as a whole, learners don't take part in much of this process directly. MALL granted learners to take the responsibility of their learning in every phase of learning process from building syllabus to evaluation. Since the main concept that MALL has brought to language learning is individualized or autonomous learning, learners are required to actively take part in the building of learning process collaborating with the teachers. Also, MALL has turned learners out to be life-long learners who are free from the restrictions of time and place. The integration of learners into the planning process of learning resulted with a change in learner perception by taking responsibility and internalizing what to learn, how to

learn and why to learn. The traditional learners were away from this perception and experienced a listen-and-learn style without internalizing the real aspects and need of learning. These considerable changes in teacher and learner roles have made learning process more efficient and fruitful.

### 3.5.2. The Influence on Four Skills

In this section, the influence of MALL on four skills (speaking, listening, reading and writing) will be discussed. While MALL has a deep effect on entire language learning process, it specifically affected the main skills, too. More or less, the influence of MALL can be clearly seen on each skill.

Though MALL has the highest influence potential on speaking, the studies and implementations of MALL on speaking skills are very limited. Among all skills, speaking skills are mostly regarded as the most difficult one for both teachers and learners to deal with because it is interfered by many independent variables such as background knowledge, cultural limitations, psychological factors, etc. Before discussing the influence of MALL on speaking skills, it would be useful to reveal the problems on the improvement of speaking. As mentioned, speaking is the most problematic area of language instruction. One of the major sources feeding this problem is grammar-oriented instruction (Coskun; 2016). Grammar oriented instruction makes learners exceedingly care for grammar rules and correctness which creates an interruption in speaking outcome. Another point is that grammar-oriented instruction has

no error tolerance and learners feel more anxious to make grammatical errors while speaking. This case results in a subconscious pressure on learner that hinders speaking output. Another significant problem for speaking is the lack of practical use. Most learners try to learn to speak in the target language from non-natives and in non-authentic environments or situations. By this way, learners do not feel like ‘really speaking’ and they are not motivated, either. Also, in this way, major pronunciation mistakes, rhythm and intonation problems are encountered. MALL has brought a solution to all these problems and introduced new perspectives in speaking instruction. Feeling insecure and anxious, the most problematic issues of speaking process have been substantially overcome with the integration of MALL into the learning process. This is mostly achieved by the accessibility feature of mobile devices in that with the help of mobile devices and the Internet, learners have the chance to access native speakers from all around the world and has the chance to practice with them. As speaking practice is individualized in this way, learners start to feel more secure and improved their speaking skills. Also, this situation hinders the pronunciation mistakes and intonation problems with the help of practice with native speakers. Moreover, they start to feel like ‘really speaking’ which motivate them to speak more.

Listening can be regarded as the second skill that MALL contributed much. With the emergence of CALL, listening skills experienced its golden era because before CALL it

was technically tiring to deal with listening materials and the scope of materials was limited. Computers helped learners easily access and use listening sources. But again, learners experienced some problems in improving their listening skills. Goh (2000)'s research summed these listening comprehension problems, some of which are (1) not recognizing the words learners know, (2) neglecting the next part when trying to figure out the meaning, (3) missing the beginning of text, (4) concentrating too much or unable to do so, (5) quickly forgetting what they hear, (6) understanding words not the content. These are the problems that any learner, regardless of the technique they adopt, can experience in improving listening skills. Lotfi (2012) grouped the listening comprehension problems under six categories which are problems related to process, input, listener, task, affect and context and the writer listed several listening comprehension problems for each category. Some problems that Lotfi (2012) detected in this study were specifically related to the MALL. For example, under process category one problem is that 'learners have difficulty to evaluate the overall difficulty of their listening comprehension'. Under input category some learners are finding it difficult when the speaker speaks too fast, speakers speak with a varied accent and when the speaker doesn't pause long enough. Another problem is under affect category which is feeling anxious that they will not be able to understand what they hear. Lastly, in context category, there are two specific problems which are unclear sounds resulting from a poor CD quality interfere with learners' listening comprehension and poor acoustic conditions of

classroom interfere with the comprehension. These problems in two studies can be regarded as the overall problems of listening comprehension. It can be said that MALL has a direct influence on Lotfi's (2012) problems and an indirect influence on Goh's (2000) problems. The best function of mobile devices that is useful in listening comprehension is the learner-led process. With mobile devices learners had the chance to control, in other words; start, pause, slow down, end and restart the listening materials which mostly eliminated the above-mentioned problems. Along with the technical ease, MALL ensured security in the listening process.

Another skill that MALL is influential is reading. Reading has always been the focus of language instruction and it may be counted as the skill that is worked on most. In traditional reading classes, learners experienced several problems such as delayed support, lack of feedback and conflict-oriented collaborative process (Lan, Sung and Chang, 2007). Also, a paper-based reading experience can be time-consuming in case of a physical dictionary use and make contextual research about the text where necessary. As mobile devices developed, there occurred devices specifically designed for reading purposes such as e-Readers and subsequently tablets. With these devices, MALL introduced a new concept to reading; digital text. Digital texts are the texts that can be viewed on digital devices and with time digital text turned out to be interactive texts. The interactive texts let users do several functions on digital texts such as looking up the meaning of a word in-



stantly by just touching on the word, highlighting important parts, taking notes, being able to view media such as photos and videos inside text and so on. These facilities helped learners to gain time in looking up the meaning of unknown words, instantly accessing contextual information about texts with the help of supportive media embedded into texts and the level of reading motivation of learners significantly increased in most cases (Wang and Smith, 2013). These technical contributions of MALL to reading skills have turned out to be functional improvements in time.

Writing is the skill that MALL has the least effect on. When it's about writing mobile devices have considerable disadvantages in contrast to computers. The main disadvantage of mobile devices in terms of writing is the absence of a physical keyboard. Though there are phenomenal smartphones that have miniature physical keyboards, they still experience the problems of slow writing or typos. Majority of mobile devices have touchscreen keyboards which pop out from the bottom when there is a text field and user can write by touching the letters. In contrast to typing, touching is slower and less accurate in writing. It can be said that they work very well for daily purposes but for long and continuous writing purposes it is tiring to write in touch mode. Related to this, in Calabrich (2016)'s study, slow speed of input depending upon the type of keyboard in mobile phones was noted as a constraint of the study. On the other hand, Chen, Carger, and Smith (2017) conducted a study on mobile assisted narrative writing practice of English language

learners by using a digital handwriting app, not touchscreen boards or keyboards and their study revealed significant efficiency of mobile handwriting app on the improvement of writing skills. Another striking study aiming to explore the effectiveness of using applications in mobile assisted language learning was conducted by Kim and Kwon (2012). In the study, they made a list of the number of smartphone applications on language learning areas when the keyword 'ESL' is searched in Apple's App Store. It can be concluded that because of the technical incompatibility of a mobile device with the nature of writing skills, MALL didn't have considerable influence on writing skills.

### 3.5.3. Influence on Grammar Instruction

Grammar instruction has always been in the spotlight of language instruction. With the prevailing approval of grammar-translation method for a long time, grammar instruction held in high esteem from both teachers and learners. Through the language instruction history, grammar instruction can be divided into two categories; deductive and inductive grammar instruction. As described in Jean and Simard (2013)'s study, deductive grammar instruction is simply the rule presentation of language which is often associated with Presentation-Practice-Production model of teaching. It is a matter of presenting the rule and practising it in a drill-type exercise and its direction is mainly from general to specific which is also called as the top-down approach. On the other hand, inductive grammar instruction is a bottom-up process from specific to general in which form is not presented directly but in a

meaningful content; and learners are expected to induce the forms. The use of deductive or inductive approach may change according to the nature of target language or characteristics of learners. While the traditional approaches adopted sharp principles on inductive or deductive grammar instruction, contemporary methods tried to combine them and handled the issue from an opportunistic perspective.

Both approaches raised certain problems in grammar instruction. The biggest disadvantage of deductive instruction is the problem of transferring knowledge from short-term to long-term memory, in other words turning learning into the acquisition. Memorize rules-practise with drills process often deals with short-term memory because the process lacks active cognitive operations that transfer the knowledge from short-term to long-term memory. On the other hand, since inductive grammar instruction is a time and energy consuming process and requires high cognitive skills, it may not be convenient for every student.

MALL brought a different perspective to grammar instruction and resolved many of the problems faced in grammar instruction process. It can be said that MALL's main influence on grammar instruction is converting it into a more inductive way with its features and functions. The diverse, dynamic and rich features of mobile apps have made grammar more inducible and perceptible. Also, contextual media use and instant feedback feature eliminated the time-consuming problem of inductive instruc-

tion. Another contribution of MALL to grammar instruction is the integration of grammar instruction with other skills. Pronunciation, reading, writing, speaking, listening and vocabulary can be embedded into grammar instruction via the facilities of mobile devices and flexibility of mobile apps.

#### **3.5.4. Influence on Vocabulary Instruction**

Before discussing the influence of MALL on vocabulary instruction, there is a need to summarize the historic progress of vocabulary instruction. In the first practices of language instruction, mostly known as Greek and Roman instruction, the lion's share was on grammar instruction and little focus was on vocabulary. Vocabulary instruction consisted of just the literal equivalents of words and its function was to be able to translate the sentences. The main, perhaps the only, drill on vocabulary was writing the definition over and over. This perception had been carried on for a long time until some new demands and requirements showed up in language instruction. During the World War II, the war conditions created the fundamentals of Audio-Lingual Method. In this perspective, vocabulary instruction was regarded as a supplementary element of speaking outcome and new strategies were developed such as repetition, replacement, single and multiple slot substitutions, restatement etc. With ALM vocabulary instruction gained a momentum which resulted in with a privileged attitude to vocabulary. After this time vocabulary instruction turned out to be exercise-oriented and the focus shifted to 'how to memorize the words?'. Wordlists, write-the-definition, use-it-

in-a-sentence, choose-the-correct-meaning exercises dominated the vocabulary instruction for a very long time. Many studies examined the futility of rote learning and studies were conducted on how to effectively teach vocabulary. Many studies came up with the same conclusion that effective vocabulary instruction is tied to multiple exposures of learners to infer the word meaning. Making inference is regarded as the main tool in this process and rather than a separate vocabulary instruction, it is embedded into and integrated with other skills. Also, the scope of vocabulary is narrowed down with the emergence of contemporary approaches such as content-based learning and learners dealt with the vocabulary that they will need.

All in all, vocabulary instruction includes three main learning techniques; literal, lexical and contextual techniques. All three techniques have strong sides and problems as well. The literal technique is the traditional memorization of native language equivalents of target words. It includes strategies such as look-and-remember or rote verbal rehearsal which is saying the word over and over till it is memorized. The biggest handicap of this technique is obviously quick forgetting. When the words memorized are not associated with contextual meaning, the words are quickly forgotten. Another technique is the contextual technique which revealed the failure of literal technique in transferring the word knowledge from short-term to long-term memory, regarded vocabulary learning as a more cognitive process rather than just memorizing them. This process includes cognitive abilities such as association,

inference, transfer and so on. It changes the nature of vocabulary instruction from learning to the acquisition. According to Rapaport (2005), contextual vocabulary acquisition is the conscious acquisition of word meaning from the context by making an inference. It is a matter of figuring out the meaning of a word from the context with the help of learners' background knowledge, their prior experiences, contextual inferences, sometimes grammatical structures and text coherence. The main handicap of this technique is that it can be time and energy consuming because it requires cognitive abilities which take time to work on and it is not suitable for every learner since, again, it includes intensive cognitive abilities. Lexical technique adopts the main principles of contextual technique and favours that vocabulary should be acquired in a meaningful context and adds vocabulary can be better learned with chunks. It rejects the notion that vocabulary is embedded into grammar, rather grammar can be taught with vocabulary instruction. Computational tools are crucial in lexical approach to analyse the data gathered from technological corpora.

MALL managed to eliminate the drawbacks of vocabulary instruction with the facilities and functions that mobile devices brought. Surprisingly, the literal technique which gradually lost influence after the emergence of the contextual approach started to be favourable again with MALL. User-generated mobile applications resurrected the literal memorization strategy of literal technique because there are thousands of mobile applications on portals

serving to teach words via flashcards. These applications are not built professionally but generated by users who have no scientific expertise on vocabulary teaching because the easiest way of preparing a vocabulary app is to make it a flashcard app that shows the target word on one side and meaning on the other, mostly supported by pictures or example sentences. However, these kinds of apps are highly in demand because learner tendency is always on the easier side. This situation can be regarded as a negative influence of mobile apps on vocabulary instruction. On the other hand, MALL helped contextual approach reduce the troublesome points such as time and energy consuming problem, that is to say professionally designed mobile apps extremely shortened the time spent on word search in contrast to physical dictionaries and offered audio-visual support to help learners infer the meaning. Also, from the point of lexical approach view, MALL contributed much because, as stated above, the lexical approach relies on computational tools to analyse data gathered from technological corpora. For instance, concordance apps are great tools to detect and inspect chunks in texts, which is an indispensable means of contemporary chunk teaching.

#### 4. Literature Review

Mobile assisted language learning has been of great concern for researchers in recent years. It's a fairly productive study area and yields seminal results for researchers. It is widely accepted that the strong integration of mobile phones into our lives and accordingly into education increases the importance of

MALL studies and shows the need to study it thoroughly. Google Scholar which is known to have the largest research database on Web lists 305.000 results for the search term mobile assisted language learning and around 3.900 of them include the term "mobile assisted language learning" in their title. The first research listed on Google Scholar as a result of the search of the phrase 'mobile assisted language learning' dates back to 1992 (a study by Clark and Hooshmand). The studies on MALL can be divided into two periods; before smartphones and after smartphones. In the first period, it can clearly be seen that the main research topics were teaching with SMS, teleconferencing and PDAs. In the second period, with the rich facilities that smartphones offered in mobile devices, there occurred a sharp increase in web-based and app-based researches. Burston (2013) conducted a distinctive statistical study on studies that have MALL implementations between 1994 and 2012. He detected 575 studies on MALL and 345 of them were implementational studies and 103 of them were related to vocabulary instruction. Two years later, Burston (2015) conducted a new bibliographic study on learning outcomes of MALL implementations. Differently, from the first study, he set specific elimination criteria for more accurate results such as inadequate treatment duration and student numbers, design shortcomings, failure to track actual usage, the presence of uncontrolled variables, inadequate control group descriptions, the presence of confounded variables and inadequate statistical analysis. By applying these filters to the managed to find only 19 studies that meet the conditions to successfully

measure the learning outcomes. 11 studies out of 19 were related to MALL and except three studies, all found out significant relations. As these studies show, MALL studies mainly focus on vocabulary instruction and prove the significant contribution of MALL in vocabulary instruction. In this part, the specific studies on the effect of MALL on vocabulary instruction will be presented under two categories. First; the MALL studies on literal vocabulary instruction. Second; the MALL studies on contextual vocabulary instruction.

#### **4.1. MALL Studies on Literal Vocabulary Instruction**

Literal vocabulary instruction has always been popular and attracted the attention of both learners and teachers. It is the most common and the first phase of vocabulary learning. For ages, it has been used in English classes and the advantages and disadvantages of it have been discussed by language experts. It involves the memorization of native language equivalents of target words without studying on the contextual use of words. To do so, bilingual words lists, flashcards, oral repetition drills and dictionaries have been used as the core tools of literal vocabulary instruction. After the integration of smartphones into the language instruction, mobile apps promoted the rise of word memorization technique because user-generated mobile apps mostly focused on the memorization of certain words with the help of rich audio-visual facilities that apps offer to users. Along with this shift, the studies that aim to assess the effectiveness of word memorization

gained importance and the number of the studies increased.

Basoglu and Akdemir (2010) conducted a study at a public university in Turkey to detect the vocabulary learning level of learners with the help of a mobile app. Among the 60 university-level Undergraduate Compulsory Preparatory Program students 30 were chosen as the experimental group to study with the mobile apps and the control group students used traditional vocabulary acquisition techniques. A flashcard app was used as the main tool. For six weeks, learners were expected to use the flashcard app to memorize the words both in curricular and extracurricular times. Before and after the study, an 80-question multiple-choice test was administered to both groups and the results were examined. The results indicated that both experimental group and control group showed improvement in vocabulary acquisition, but the experimental group found the process more effective and entertaining in contrast to control group.

Differently, from other researchers, Wu (2015) created a word learning software including words in its database which were alphabetically listed. The app enables learners to select and deselect words to create word pools labelled as known words and unknown words and move from one another. The app includes the native language equivalents of target words with their phonetic transcriptions and lets learners take a sample test from randomly selected words. The participants were 70 4th year medical school students, 35 of which were chosen as the test group and the other 35 as the control group and

they studied nearly for two months. The pre-test results showed no significant difference between the two groups but in the post-test, test group outperformed the control group.

Similarly, Jalalifarahani and Ghovehnodoushan (2011) attempted to seek the effectiveness of MALL on vocabulary instruction. The study was conducted on 55 elementary EFL students divided into two groups. The first group, the experimental one, studied vocabulary with mobile phones and for the control group, realia was used as the main tool to teach vocabulary. For the control group, the words were chosen from their elementary book and 5 words were taught for each session, 30 in total. The experimental group studied vocabulary via SMS messages. They received the English-Persian translation of the words three times a day for ten days. At the end, a 20-item test was administered to students to assess their vocabulary knowledge. Pre-test and post-test results indicated that word learning via SMS outperformed the word learning via realia. However, the difference of the numbers of sessions that experimental and control group had taken was mentioned as the independent variable of the study.

Another SMS-dictionary comparison study was conducted by Alemi Sarab and Lari (2012) with 45 Iranian university level students. Their study focused on finding out if there is a difference in learning vocabulary through SMS or dictionary. To do this, 320 academic words were chosen from seven sub-lists. For 16 weeks, learners received SMS messages including Persian-English meanings of words two times a week, 10 words for each attempt. For the control

group, the dictionary was used as the primary tool to learn the same words. In assessing the performance of learners, pre-test, post-test and a delayed post-test were used. The results of the post-test indicated that both groups showed improvement and no significant difference was observed but the results of the delayed post-test which had been administered 4 weeks after the post-test showed that experimental group outperformed the control group. According to these results, researchers concluded that teaching vocabulary via SMS is an effective way to retain words in long-term memory.

#### **4.2. MALL Studies on Contextual Vocabulary Instruction**

The study by Basal, Yilmaz, Tanriverdi and Sari (2016) compared the effectiveness of using mobile applications with traditional activities on the teaching of 40 figurative idioms chosen from Michigan Corpus of Academic Spoken English. The 50 participants were from ELT department of a university in Turkey who are of the upper-intermediate level. Participants were divided into two groups and while the experimental group used a mobile application in presenting the idioms, control group used the traditional pen-paper system. The meaning of the idioms, usage, pictures and example sentences were sent to experimental group as MMS message via WhatsApp Messenger and the control group received the same data as a printed document. 10 MMS messages about the idioms were sent to experimental group every week, four weeks in total. The results of the pre-and post-test of the control group showed significant improvement in idiom knowledge of the learners

which indicated that traditional pen-paper style made a positive contribution to the control group in vocabulary learning. Also, the pre-and post-test results of the experimental group indicated significant improvement which proved the effectiveness of using the mobile application in vocabulary instruction. However, when the post-test results of control and experimental group are compared, it was clearly seen that experimental group's score outperforms the control group's score suggesting that in this study mobile application is far more effective in teaching vocabulary than traditional pen-paper activities.

The study of Fageeh (2013) aimed to explore the benefits of mobile applications in improving vocabulary acquisition and learner motivation. The participants composed of 58 randomly selected students divided into two groups; 27 students for experimental group and 31 students for the control group. Before the training section, a pre-test was administered to both groups. The teacher sent the words he had chosen from the textbook to the learners in the experimental group via WhatsApp Messenger three times a week after each class. Learners are asked to define the words by using a dictionary application, use the words in a sentence they produce and send it back to their friends and teacher for correction. The same process was applied to control group as a traditional way via homework. At the end of the training session, a post-test and a motivation questionnaire were administered to students. The results of the post-test indicated a significant improvement in experimental group's test scores suggesting that

mobile application was fairly effective in vocabulary acquisition in contrast to the traditional way. Also, the motivation scale results of the experimental group were higher than the control group showing the motivating nature of mobile applications in vocabulary instruction.

Another distinctive case study conducted by Ahmad, Sudweeks and Armarego (2015) attempts to reveal the effect of MALL on vocabulary acquisition of six non-native English-speaking migrant women in a small community centre in Western Australia. Along with the vocabulary instruction, a socio-cultural approach was adopted in the design of MALL lessons. The study was conducted under a non-profit program whose objective is to provide a non-formal learning environment for people who want to learn basic conversational English. The training session involves two-hour non-formal conversational sessions each week. As data gathering tools, pre-MALL and post-MALL interviews were used. Learners were provided with tablets that include ESL apps that they could study on. The app in the tablets provided conversational English everyday phrases under five categories. The learners could watch and listen to conversations, practice vocabulary by activities such as picture matching, listen to the word pronunciations, see the use of words in example sentences, practice speaking with audio recording facility. Vocabulary is mostly studied in three steps. In step one, pictures were used to introduce new words and phrases. This is mostly the engagement part of the session. In the second step, learners practice fluency and become familiar with the use of words and

phrases. The third step is the practice part. Learners use their tablets to practice what they learnt. The results of the pre-and-post interviews indicate that sociocultural factors affect migrant women's language learning in general and vocabulary learning in particular. And the responses of the attendees reveal the positive effect of the MALL in vocabulary instruction.

In conclusion, as can be clearly seen from the studies above, MALL has a significant contribution to the acquisition of vocabulary. The studies mentioned above reflect different aspects of MALL such as participants, tools, data gathering ways, evaluations types, learner levels etc. However, no matter what underlying circumstances are, MALL has been proved to be an effective way in vocabulary instruction.

## 5. Conclusion

Smartphones have turned out to be a significant tool in education and mobile applications act as the key educational components of smartphones. This study attempted to reveal the effectiveness of using smartphones for educational purposes in general and for teaching vocabulary in particular by reviewing the literature. Most of the studies reviewed suggest that mobile applications are effective in vocabulary instruction in general. The vocabulary applications can be categorized under two categories as literal and contextual vocabulary applications because while some applications try to teach vocabulary within a context by promoting cognitive abilities such as inference or guessing, other applications just try to teach the literal meaning of the words by bilingual lists or flashcards. Methodologically it is believed that contextual

instruction is praised over literal instruction but surprisingly the download counts of the literal applications are much higher than the contextual ones (Çelik, Ö., 2018). This tendency shows that mobile applications offer an extensive autonomous way of learning for learners, but this autonomy may result in moving off the methodological basis in learning.



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