People's Democratic Republic of Algeria

Ministry of Higher Education and Scientific Research

Mohamed Kheider University of Biskra

Faculty of Letters and Languages

Department of Foreign Languages

Section of English

Exploring the Effectiveness of Mobile-assisted Language Learning in Enhancing EFL Students' Vocabulary Acquisition at Biskra University

Thesis submitted in partial fulfillment of the requirements for Master's Degree in Science of Languages (TEFL)

Submitted by:

Miss. Amina BOUZIDI

Supervised by:

Dr. Hanane SAIHI

June 2015

Dedication

To the memory of my grand-parents: Ali and Mohamed. May ALLAH welcome them in His vast paradise.

To my grand-mothers: Rahla and Fiala whose prayers are stars shining in my sky.

To my parents who brought me up with their love and support. To you my wise father, without your encouragement I may not have reached this level. To you my tender mother, without your tender words I would never finish this work. Dear parents, your hundred hugs give me courage, your sparkle and smiles make me soar.

To my precious brothers: Dr. Takie Eddine, Mohamed Ali, and Ahmed Amine.

To my cute sisters: Ilhem, Insaf, Hadjer, and my soulemate Amel.

To all my aunts and uncles.

To my dearest nieces and nephews.

To my loyal, truthful, caring, loving, and secretive friends with whom I shared the best memories.

To all my teachers.

To you who will read this humble work.

To all those who love me.

May ALLAH Bless you all.

Amina BOUZIDI

Acknowledgments

Praise to ALLAH, the Compassionate, the Merciful. Peace and blessing on the Messenger of Allah, Muhammad the prophet. I wish to express my gratitude to Allah for His blessing and inspiration leading me to finish this work.

I make a grateful acknowledgement to all the people who helped me in this work. My thanks to:

- My supervisor Dr. Hanane SAIHI for her unaccountable guidance, patience, help, and support. Her sage advice, insightful criticisms, and patient encouragement aided the writing of this dissertation in innumerable ways.
- My honourable jury for the time and effort they devoted to examine this humble work.
- All students and teachers who cooperated to realise this work.
- All persons who collaborated in this study and make this paper a success.

Abstract

Mobile-assisted Language Learning is regarded as a new popular multidisciplinary field of educational technology. This new wave has gained its popularity due to the widespread of various mobile technologies used to enhance learning. Mobile-assisted language learning is a language learning approach which consists of using handheld technologies to teach and learn a language. Therefore, this study highlights the current use of mobile devices among both EFL students and EFL teachers at Biskra University. As far as EFL is concerned, vocabulary knowledge is regarded as its vital part. Hence, the main focus of the study is to explore how EFL students exploit their mobile devices to acquire vocabulary, and how EFL teachers use their mobile devices to teach vocabulary as well. Thus, the data were collected by means of students' questionnaire and teachers' interview. The findings reveal positive attitudes towards the importance and use of mobile devices from both sides; teachers and students. In addition, MALL is proved to be effective in enhancing EFL students' vocabulary acquisition. To conclude, both EFL teachers and students are concerned with using mobile devices as new educational tools in an appropriate manner so as to achieve better pedagogical results. Therefore, results of the current study will bring benefit for all EFL educational practitioners.

List of Acronyms and Abbreviations

CALL: Computer-assisted Language Learning

CMC: Computer Mediated Communication

EFL: English as a Foreign Language

E-Learning: Electronic Learning

L2: Second Language

MALL: Mobile-assisted Language Learning

Mlearning: Mobile Learning

PDA: Personal digital Assistant

SMS: Short Message Service

List of Tables

List of Figures

Table of Contents

1. General Introduction

The increase use of modern technology in educational fields has received a great deal of attention in the recent years. In a similar vein, various studies have been conducted to investigate a new wave of educational technology which is the mobile device. As an offspring of Computer-assisted Language Learning (CALL), Mobile-assisted Language Learning (MALL) is deemed as a powerful communication medium due to the specificity of the novelty of the digital tools it employs. Despite the challenges, the handheld devices offer numerous advantages, providing an ideal addition to teaching and learning tools. In fact, widespread ownership of portable devices is enabling students to participate in learning foreign languages at anytime and from any location, whether individually or in contact with others. It is to say that the number of publications and conferences in the field of mobile learning is thus proliferating. For that, researchers are trying to make mobile devices a rich resource for teaching and learning foreign languages. In the same vein, many studies have been carried out to implement mobile technologies as a medium to support different student's educational needs.

As far as vocabulary is concerned, MALL becomes increasingly used amongst EFL students as a tool to scaffold their English proficiency level. Vocabulary acquisition, considered as the building block of any language, has became the topic of interest for many EFL practitioners because the more EFL student acquires new words, the more s/he effectively communicates. Along the same vein, many studies have already been conducted in different contexts dealing with mobile learning and vocabulary acquisition. Therefore, the present study aims to explore to what extent EFL students at Biskra University use their mobile devices to reinforce their language learning skills, mainly the process of acquiring vocabulary. Moreover, it tries to investigate the extent to which

mobile devices are used as in teaching and learning process, comparing to the traditional method, in acquiring new vocabulary.

2. Statement of the Problem

Today's students are living in a world that is extremely fast-paced, technologically driven and constantly changing; although, many of the schools continue to deliver a 20th century model of education. All this requires a fresh set of responses from education. Mobile devices become vital parts of everyone's daily life. When talking about mobile devices, all sorts of mobile technologies are included ranging from mobile phones (Smartphones), iPods, PDAs, MP3/ MP4 players to laptops and tablet computers. In fact, whilst the focus has been on CALL, an emerging interest raises to tackle MALL.

We have noticed that handheld devices are increasingly involved in the learning process. Although, research in this field in the Algerian context is relatively low. Thus, based upon various previous studies, the present research focuses more on the significant role MALL plays in acquiring vocabulary in the Algerian context, precisely at Biskra University.

Mobile devices are being used to support vocabulary learning. It has been noticed that EFL students are moving away from the traditional methods of acquiring vocabulary. Therefore, they tend to maximize the benefits of their mobile devices. Thus, it becomes pivotal to conduct a study seeking for exploring the role of mobile learning in the process of vocabulary acquisition, especially in the Algerian context.

3. Aims of the Study

This study aims at highlighting the educational shift of the 21st Century; the emergence of MALL as new language learning approach. The main focus is on how EFL students of Biskra University update themselves to use mobile technologies to support their English

language level, mainly the way they acquire new vocabulary. It also attempts to explore how EFL students learn vocabulary with mobile devices.

The other crucial interest is to find out more about the ways in which those who are engaged in teaching and learning – teachers and students, use mobile technology in their daily learning practices. In fact, we attempt at raising the interest on how this new wave of technology can be beneficial for both teachers and students so as to work with these devices not to work against them, which is the current challenge to be undertaken. In other words, this study seeks to provide a guiding line for future activities and educational practices in the field of MALL.

4. Research Questions

Given the importance of Vocabulary acquisition in foreign language learning and the opportunities that MALL provides, the present study attempts to find answers for the following questions:

1. Do EFL students at Biskra University use their mobile devices as vocabulary learning tools?
2. How do EFL students at Biskra University perceive the usefulness of Mobile-assisted Language Learning, particularly mobile vocabulary activities, in assisting their vocabulary acquisition?
3. How do EFL teachers at Biskra University perceive the use of mobile devices in teaching/learning process, namely as a vocabulary teaching/learning tool?

5. Hypotheses

Vocabulary acquisition is regarded as the main core of learning any language. With the emergence of mobile learning, EFL students have a wide range of opportunities to use this new technology in order to enrich their vocabulary. This leads us to hypothesize that:

1. EFL students at Biskra University may rely on mobile vocabulary activities to enrich their vocabulary.
2. EFL students at Biskra University may find mobile devices effective in enhancing their vocabulary acquisition.
3. EFL teachers at Biskra University may have positive attitude towards using mobile devices in teaching/learning EFL, and vocabulary in particular.

6. Research Methodology

In order to answer the research questions stated earlier and to test the above hypotheses, the data needed was collected by two means. First, a students' questionnaire was administered to thirty (30) EFL students at Biskra University. Second, a teachers' interview was provided to three (03) EFL teachers at Biskra University. The research means provided valuable data that will be analyzed and discussed in Part Two of the current study.

7. Significance of the study

This study tries to find out more about how mobile learning is becoming increasingly integrated within EFL students' and teachers' daily life, especially in teaching and learning foreign languages. In a similar vein, the current study attempts to investigate the materials students are using to enrich their English vocabulary. It also tries to clarify the new concept of mlearning among both teachers and learners. Hence, the results of this study will serve as a basis stimulus for students as well as teachers in order to start thinking beyond traditional notions of schooling. Therefore, it aims to provide teachers with the necessary guiding lines to start implementing mobile devices into their courses and to prepare the EFL students with 21st century skills. On the other hand, the results of this study would give the student the opportunity to well-understand the concept of MALL and its impact on the formal learning.

8. Organization of the study

In addition to the general introduction which introduces the background of the study, the aims, the research questions, the hypotheses, and significance of the study, the current study consists of three main chapters. The first and second chapters represent the literature review. In the first chapter, the study reviews the literature related to Mobile-assisted Language Learning, from defining its main concepts, reviewing its related theories, to evaluating its use and implementation in teaching and learning process. In the second chapter, a literature review on vocabulary acquisition will be provided. In addition to defining vocabulary, the chapter provides the most essential aspects related to word knowledge. Some selected examples of Mobile-assisted Language Learning activities related to vocabulary acquisition are provided. Finally, the third chapter concerns the investigation of the effectiveness of Mobile-assisted Language Learning with regard to vocabulary acquisition. The chapter is starts with presenting the rationale for research approach and describing the research tools. Then, data collected will be carefully analyses, interpreted, and discussed. Finally, the chapter ends with a conclusion, followed by some pedagogical implementations concluded from the findings of the study.

Chapter One

Mobile-assisted Language Learning

Introduction

With the remarkable growth of educational technologies, Mobile-assisted Language Learning (MALL), as a language learning approach, has started to make its presence felt in the field of education, emerging from the field of mobile learning (mlearning). Mobile technologies are attracting a wide range of educators and EFL practitioners due to the large number of advantages they provide; such as flexibility, ubiquity, and personalization. In this chapter, a definition of the key terms related to the field of Mobile-assisted Language Learning (MALL) would is provided. In addition, it has been tried to demonstrate a brief history of mobile learning as well as the different theories and approaches to MALL. Here, therefore, an evaluation of mobile learning is given. The chapter ends up with the demonstrating the effective use of technology in teaching.

1.1. Key Concepts to Mobile-assisted Language Learning

Mobile-assisted Language Learning is regarded as an independent language learning approach that emerges from the general field of learning, which is mobile learning. This new paradigm involves the use of different mobile devices as teaching and learning tools.

1.1.1. Definitions of Mobile Learning

In recent years, the world has witnessed an explosion in the growth of mobile learning across various sectors of education. In fact, whenever referring to mobile learning, many authors use the term mobile as synonym to mobile phone, amounting to a misconception to the whole concept (Eteokleous & Laouris, 2005). However, this new concept is still ill-defined because of the difficulty in characterising the unique nature of mobile learning. It

is to say that many researchers agree upon the difficulty of providing an exact definition of what constitutes mobile learning, claimed Kukulska-Hulme and Traxler (cited in Hockly, 2013). Accordingly, Winters stated that mobile learning has been defined from different perspectives varying from particular experiences, uses, and backgrounds; seeming to be all thing to all people (cited in Sharples, 2006). In other words, the concept of mobile learning is defined from different angles, depending on various variables.

In his article Learning in a Mobile Age, Traxler (2009) has provided an excellent documentation not only of the various definitions of mobile learning, but also of the most influential projects of the past couple of years. Traxler reported that at the first mLearn conference in the spring of 2002, a key-note speaker has predicted that the new concept of mobile learning would have a separate identity in the future, and so has it. John Traxler argued that mobile learning is "certainly not merely the conjunction of 'mobile' and 'learning'."(p.1), he added that mobile learning is part of a new mobile conception of society (cited in Smith, Carter, & Adolphs, 2012). Traxler (2009) also claimed that mlearning continued to gain identity and definition rather than lose them. Thus, multi-dimensional definitions have been provided to the concept of mobile learning (mlearning). In the past, mobile learning has often been defined in terms of its use of mobile technologies. More recent definitions espouse it to e-learning and informal learning, as well as the mobility of the learner. In a similar vein, Eteokleous and Laouris (2005) questioned, "Doesn't mobile learning simply mean 'Learning on the move'?"(p. 2). Current perspectives on mobile learning generally fall into the following broad categories:

1.1.1.1. Mobile Learning as a Branch of Technology-enhanced Learning

It is the definition that dominates the literature, where mobile learning is viewed as learning using mobile devices. A formal definition provided by UNESCO (2014) states

that mobile learning involves the use of mobile technology, either alone or in combination with other information and communication technology (ICT), to enable learning anytime and anywhere. Another simple definition was provided by Quinn (2000), stating that mobile learning is learning which takes place with the assistance of mobile devices (cited in Eteokleous & Laouris, 2005). In line with this definition, many authors also shed light on the technological aspect while identifying mlearning because they consider this new technology as a "pervasive medium that may assist us in combining work, study, and leisure time in meaningful ways" (cited in Eteokleous & Laouris, 2005, "Introduction," para. 2). For instance, Geddes (2004) believed that mobile learning can be identified by the availability of the tools used (cited in Baleghizadel & Oladrostam, 2010). He also added that, regardless time and location, mobile learning is about the acquisition of knowledge and skills through the use of mobile devices (cited in Ticheler, 2010). Another emphasis is on the functionality of the devices themselves. Kukulska-Hulme and Shield (2008a) claimed that mobile learning involves the use of any portable learning materials, including audio cassettes, audio CDs, portable radios and DVDs players, concentrating on recent technologies (cited in Baleghizadel & Oladrostam, 2010). Hence, the main characteristic of mobile learning is the digital tools and their novelty.

Earlier, Traxler (2005) defined mlearning as "any educational provision where the sole or dominant technologies are handheld or palmtop devices" (Traxler, 2009, p. 2). He therefore explicates that mobile learning is the provision of education and training on mobile devices. Another technocentric definition was provided by O'Malley et al. (2003) saying that it is any sort of learning that takes place when the learner is not at a fixed, predetermined location, or learning happening when the learner exploits learning opportunities offered by mobile technologies. Accordingly, The MoLeNET initiative, a

programme across the UK vocational sector, believes that mlearning is exploiting the ubiquity of handheld hardware, wireless networking and mobile telephony to enhance and extend the reach of teaching and learning processes (cited in Traxler, 2009). Therefore, Desmond (2005) took a similar position, asserting that when defining mobile learning, the focus should be on mobility. He pointed out, "mobile learning should be restricted to learning on devices which a lady can carry in her handbag or a gentleman can carry in his pocket" (cited in Traxler, 2009, p. 2). Therefore, the portability of the mobile device should be taken into consideration to facilitate the learning process.

Commonly, as stated in the Global Encyclopedia of Information, mlearning refers to learning opportunities through the use of mobile solutions and handheld devices ,such as smartphones and PDAs, that are connected to information networks, or what Vanska (2004) assumed to call "the opportunity to 'learn on the go' " (cited in Tomei, 2008, p. 581). Thus, mlearning offers new ways of learning due to the various digital devices used.

1.1.1.2.Mobile Learning as a Descendent of e-Learning

Mobile learning is sometimes viewed as a mere extension of e-learning. Formal definitions from European and Government agencies espouse the term mobile learning to the concept of e-learning, stated Winters (2006) (cited in Sharples, 2006). Most researchers and educators consider mobile learning as an immediate descendent of e-learning. To elucidate, Pikwart et al. (2003) believed that e-learning is learning assisted by electronic tools and media, following this, mlearning is e-learning that uses mobile technology and wireless transmission (cited in Eteokleous & Laouris, 2005). It is to say that mobile learning has always led to e-learning, as Traxler (2007) pointed out that mobile learning therefore should be understood as both "a continuation of 'conventional' e-learning and a reaction to this 'conventional' e-learning and to its perceived inadequacies and limitations"

(p. 1). Chinnery (2006) took a similar position by asserting that mobile learning is a burgeoning subdivision of the e-learning movement. Quinn (2000), who viewed mlearning as e-learning through mobile computational devices (cited in Traxler, 2009, p. 2), also claimed that mlearning is the intersection of mobile computing and e-learning (cited in Tomei, 2008).

The transition from e-learning to mlearning is also characterized by a change in terminology. Eteokleous and Laouris (2005) proposed a helpful comparison, as demonstrated in Table 1.1, which contrasts the choice of terminology of the two learning environment types.

e-learning	**mlearning**
Computer	Mobile
Bandwidth	GPRS, G3, Bluetooth
Multimedia	Objects
Interactive	Spontaneous/ intimate
Hyperlinked	Connected
Collaborative	Networked
Media-rich	Lightweight
Distance learning	Situated learning
More formal	Informal
Simulated situation	Realistic situation
Hyperlearning	Constructivism, situationism, collaborative

Table 1.1. Terminology comparisons between e- and mlearning, Laouris & Eteokleous, 2005, "From e-learning to mlearning; Learning in focus".

1.1.1.3.Mobile Learning as an Informal Way of Learning

Another perspective on mobile learning sheds light on its informal aspect, leading to juxtaposition between mobile learning and formal education as well as linking other interrelated aspects of mlearning such as context and learner's perspective. Global Encyclopedia of Information provided a simple definition of informal learning; in which both goals and processes of learning are set by the learner, and where the learning is situated rather than pre-established (Tomei, 2008). Along the same vein, a definition of mobile learning provided by Wikipedia (2014), saying that mlearning is learning across multiple contexts, through social and content interactions, using personal electronic devices. Moreover, mobile learning is considered as an opportunity to be creative. Accordingly, Sharples (2007) pointed out that "mobile learning gives us the opportunity to design learning differently, to create extended learning communities, to provide expertise on demand, and to support a lifetime of learning" (cited in Ticheler, 2010, "Mobile Learning", para. 10). Walker (2007) shared Sharples' view, focusing on context; he stated that mlearning is not merely the use of portable devices, but learning across contexts (cited in Ticheler, 2010). It is to say that mlearning supports EFL learner's individual learning style, providing the opportunity to be self-creative and to learn in different contexts.

1.1.1.4.Mobile Learning as a Function of its Facets

Most definitions focus on a specific perspective over another. The most elaborated ones seem to find a convergence of the interrelated aspects of mobile learning in order to provide an elaborated definition. Accordingly, Koole's FRAME (Framework for the Rational Analysis of Mobile Education) model considers mobile learning as the process of converging each of the three mobile components; mobile technologies, human capacities, and social interaction (cited in Adolphs et al., 2012). Sharma and Kitchens (2004) also

shared the same idea, stating that mobile learning is "…learning supported by mobile devices, ubiquitous communications and intelligent user interfaces" (cited in Eteokleous & Laouris, 2005, "Conclusions and Discussions", para. 2). Moreover, many other researchers (Sharples, Taylor, & Vavoulva, 2007) took a similar position by identifying mlearning as the process of acquiring through conversations, across multiple contexts amongst people and personal interactive technologies (cited in Tomei, 2008). Nevertheless, in order to provide a helpful, clear, and systematic definition to mlearning, the different parameters and ways which may interact and influence each other should be taken into account (Eteokleous & Laouris, 2005). An abstract formulation relating the different interrelated aspects of mlearning was proposed by Eteokleous and Laouris (2005), in which mlearning is a function of its interrelated components;

$$MLearn = f\{t, s, LE, c, IT, MM, m\}$$

Where;

t= time;

s = space;

LE = learning environment;

c = content;

IT = technology;

MM = mental;

m = method

(See Eteokleous & Laouris, 2005, "Mobile Learning as a function of its Facets", para. 1).

Participants in Big Issues in Mobile Learning, a workshop aimed at addressing the issue of what mobile learning is, also tried to re-conceptualise the notion of mlearning by iterating a concept map of key characteristics demonstrated in Figure 1.1. An interesting characteristic of this map is that it does not prioritise technology over other aspects. It emphasises on tool's appropriateness, social factors, and learning activities.

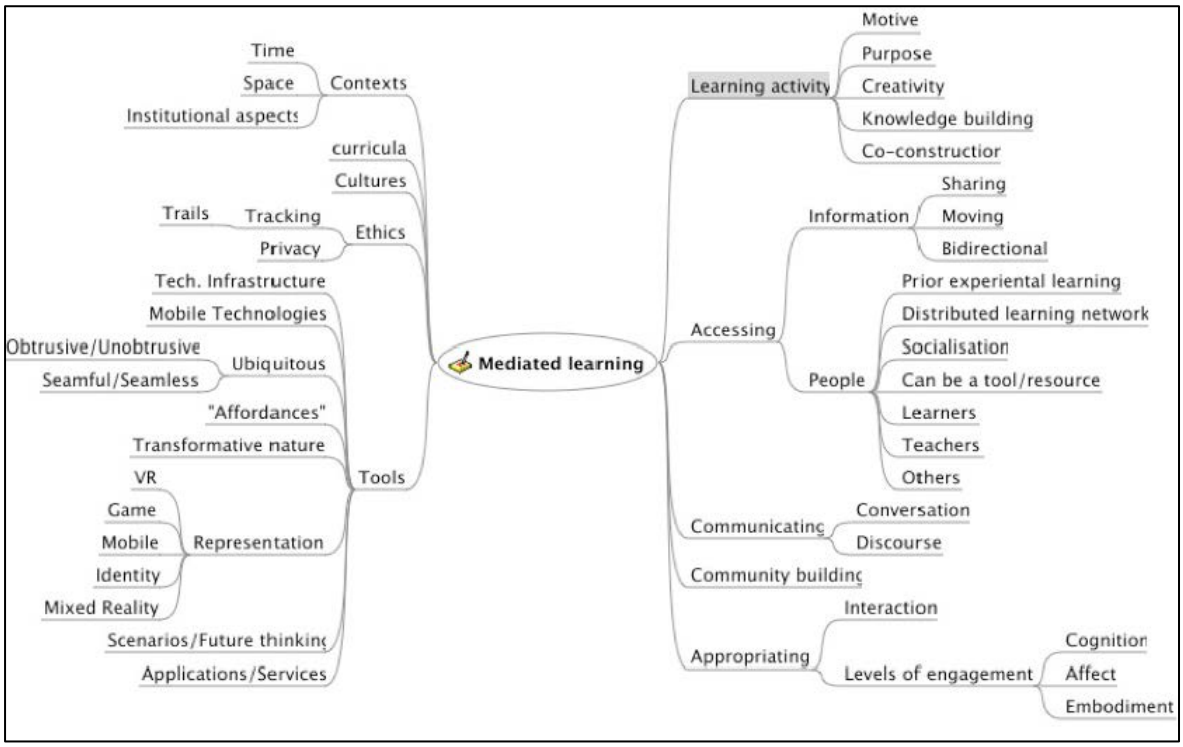


***Figure 1.1*. Mediated learning through mobile technologies (M2 learning), Sharples, 2006, p. 7.**

It is to say that "learning is learning" (Sharples, 2006, p. 7), as one participant in the workshop claimed. He also added that mobile technologies are learning tools, through which learning is mediated, which is the case as any other educational tool.

1.1.2. Definition of Mobile-assisted Language Learning

With the tremendous growth of mobile technologies, Mobile-assisted Language Learning (MALL) has become increasingly common. It is significant to recognize that

MALL is not a fully independent field. In addition to its obvious relation to second language acquisition (SLA), Hubbard and Stockwell (2013) claimed that MALL depends on two major bodies which are mobile learning and computer-assisted language learning. Figure 1.2 demonstrates Hubbard and Stockwell's conception of cross-field relationships. It captures the interrelation between the three concepts; where the shaded area represents the overlap.

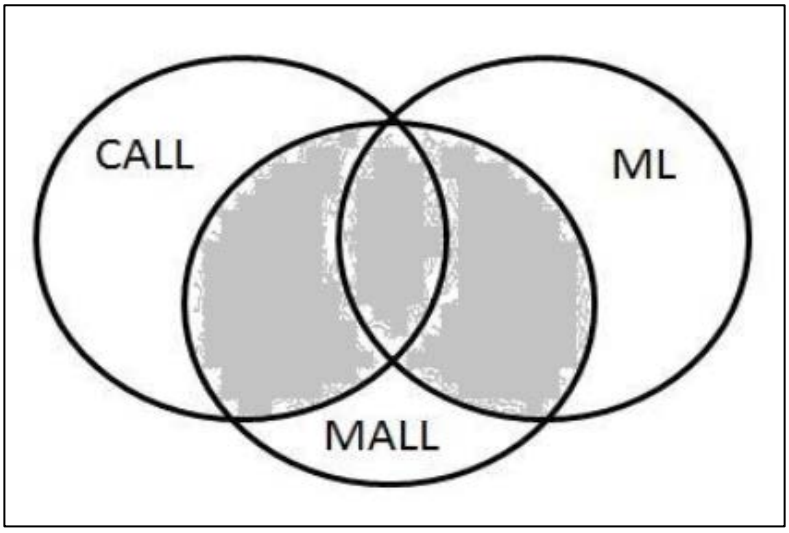


Figure 1.2. **The relationship between CALL, MALL, and mlearning, Hubbard & Stockwell, 2013, p. 5.**

Therefore, MALL is considered as a subset of the emerging field mobile learning and Computer-assisted Language Learning (CALL). Mobile-assisted Language Learning describes an approach to language learning that is assisted through the use of handheld or palmtop technologies (Valarmathi, 2011). This new wave of educational technology uses a wide range of mobile devices. Kukulska-Hulme and Shield (2008b) explicate that unlike CALL, MALL opts for a variety of handheld technologies, often with internet connection, ranging from ultra-portable laptops and handhelds to smartphones, mobile phones, MP3 and MP4 players, digital voice recorders and cameras. Thus, Mobile-assisted Language Learning is a branch of technology-enhanced learning which can be implemented in many

forms of education including face-to-face, distant or on-line (Amouzegar & Khodashenas, 2013). In fact, MALL has the potential to assist learners and to reinforce their learning process at the exact point of need and in ways that are congruent with the learner's lifestyle (Kukulska-Hulme & Shield, 2008b). MALL then gives EFL learners the opportunity to learn languages not only in a classroom but also outside a classroom; whenever they desire and wherever they are.

1.1.3. Definition of Mobile Technology

Nowadays, mobile devices make mobile learning possible by delivery of various learning materials and content to learners. Indeed, a wide range of activities related to language learning are supported by mobile and palmtop devices. Trifanova et al. (2004) defined mobile devices as "...any device that is small, autonomous and unobtrusive enough to accompany us in every moment" (cited in Kukulska-Hulme & Shield, 2007, p. 3). An investigation of the MALL literature reveals that the research in the field has tend to employ devices such as mobile phones/smartphones, MP3/MP4 players, PDAs, and palmtop computers (Kukulska-Hulme & Shield, 2007). Such portable devices -referred to in popular and scholarly literature as "mobile, wireless, handheld or nomadic- are now social staples" (Chinnery, 2006, p. 9). Figure 1.3 shows some types of mobile devices.

Figure 1.3. **Illustration of some mobile devices, http://www.eportfolios.ac.uk/mobile**

Mobile technologies can be classified in terms of personalization, shareability, portability, and staticity. Naismith, Lonsdale, Vavoulva and Sharples (2004) provided a classification of mobile technologies using the two orthogonal dimensions of personal vs. shared and portable vs. static (as shown in Figure 1.4).

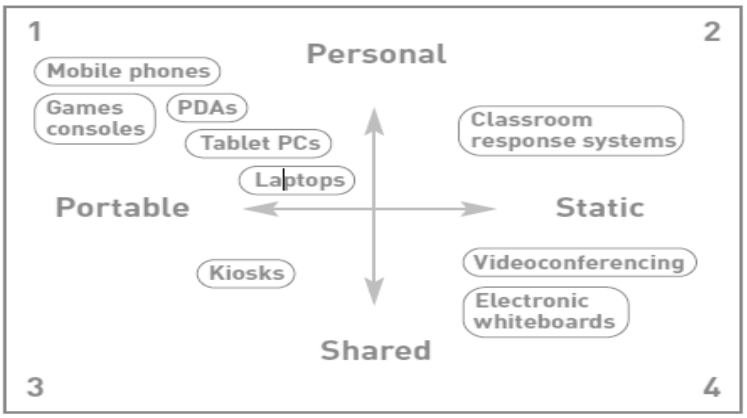


Figure 1.4. **Classification of Mobile Technologies, Naismith et al., 2004, p. 7.**

Learners tend to see mobile devices as a powerful medium in the classroom, enabling them to gather information, study, work, and communicate with both their teachers and classmates effectively. Beatty (2013) illustrated by imagining the situation: a teacher writes a detailed assignment on the board with much efforts, she asks her students to copy it down. When she finishes writing, the students take their mobile phones and snap a photo of the written text. Should the teacher be angry or act passively? , questioned the writer. The answer, added Beatty, depends on the teacher's purpose; if she aimed at getting the students to practice their writing skills, then their action would not be accepted. However; if the purpose was simply to share information, then the students have found a practical solution (2013).

Moreover, EFL learners tend to favor a specific device than another due to the personalization of every device; in terms of use, capacity, and features. While mobile phones, namely iPhones, have typically been the device of choice of many learners in

recent years, other mobile devices such as tablet computers are also gaining popularity (Hubbard & Stockwell, 2013). It is with the iPhone, Android devices, and Windows Phone 7 products, a shift has happened form phones with added-on computing capabilities into mini-computers with phones capabilities (Godwin-Jones, 2011). Figure 1.5 demonstrates a classification of mobile devices with regard to the various aspects related to learning through them; the activities provided, the medium used, the type of learning (individual or collaborative) adopted, as well as the route followed.

Device	Activity	Medium	Individual	Collaborative	Route
Mobile Phone	SMS: Administration	Text	√	-	T→L/L→T
	SMS: Vocabulary	Text	√	-	T→L/L→T
	SMS: Quiz	Text	√	-	T→L/L→T
	Email	Text	√	-	T→L/L→T
	Videoclips	Video	√	-	T→L/L→T
	Web Board	Text	√	√	T→L/L→T/W→L/L→L
	Coaching	Voice	√	-	T→L/L→T
	MediaBoard	Text/Graphics/Voice	√	√	T→L/L→T/L→L/W→L
Mobile Phone + Interactive TV	Informal language learning via SMS / WAP / iTV	iTV text	√	-	iTV → L
Handheld Computer	Grammar drills	Text	√	-	W→L
	Synchronous chat	Text	-	√	T→L/L→T/L→L
	Reading poems	Text	√	-	W→L
	Listening to poems	Audio	√	-	W→L
MP3 player	Listening to songs	Audio	√	-	W→L
	Listening to podcasts	Audio	√	-	W→L
	Listening to native speakers of	Audio	√	-	W→L
	L2	Audio	√	√	W→L
	Listening to feedback on work	Voice	√	-	L→W→T
	Recording work				
Any	User-created content	Audio/Video/Text/ Graphics/Voice Etc	√	√	S→S, S→T

Key

T = Tutor
L= Learner
W = Web

iTV = Interactive TV
Audio = Listening material
Voice = Spoken material

***Figure 1.5*. Mobile activities by device, medium and communication, Miangah & Nezarat, 2012, p. 316.**

1.2. Development of Educational Technology

Usually, any act of language learning and teaching involves the use of particular types of technology (cited in Baleghizadel & Oladrostam, 2010). According to Pownell and Bailey (2001), handheld computers are at the forefront of the fourth wave in the evolution of educational technology. There are four waves that have marked the move in educational methods (Gutiérrez-Colón Plana, 2010). In fact, each wave is characterized by the use of particular types of technological tools and by the emergence of specific language teaching and learning approach.

1.2.1. First Wave

According to Salaberry (2001), this wave started before the 1970's, with the espousal of the audio-lingual method. Practically, a succession of audiovisual recording devices such as real-to-real, Video Cassette Recordings (VCRs), and Personal Computers (PCs) were used. The advent of the audio-lingual theory in the 1950's sparked the use of authentic audio samples for educational purposes in language laboratories which became the fashion of the day (cited in Al-Qudaimi, 2013). Yet, influenced by the behaviorist theory, the language laboratories were replaced by drill-based computer-assisted instruction.

1.2.2. Second Wave

The emergence of this wave was around the 1970's, when the audio-lingual method was at its best, learners had to repeat monotonous pattern drills. It is within this wave, desktop computers and PCs appeared (Chinnery, 2006). Indeed, the computer-mediated communication (CMC) in educational contexts has been progressing as technologies continue to shrink in size (Chinnery, 2006). It is within this wave that CMC has appeared.

1.2.3. Third Wave

According to Sharples (2000), the arrival and popularity of the internet and the World Wild Web (www) in the 1990's gave rise to the next generation of e-learning (cited in Al-Qudaimi, 2013)). Chinnery (2006) stated that the internet arrival also advanced the computer-mediated communication and CALL began to step out of the language lab into the world.

1.2.4. Fourth Wave

This wave started in the 2000's as technologies continue to shrink in size; it is during this period that palmtop computers and mobile phones began to spread. Nevertheless, mobile learning had to wait for almost a decade for other mobile devices to see the light. The birth of devices such as PDAs, iPods, and digital dictionaries gave rise to mobile learning, and consequently MALL (Gutiérrez-Colón Plana, 2012). The first mLearn conference was held in the spring of 2002 (Traxler, 2009). Over the past decade, mobile learning has been developed as a sophisticated field within its own rights, with a proliferating number of articles and conferences, becoming a field that is quickly mature, claimed Hubbard & Stockwell (2013). Therefore, this emergence may probably be the birth of the fifth wave, claimed Gutiérrez-Colón Plana (2010).

1.3. Approaches to Mobile-assisted Language Learning

Mobile learning is considered as a new dimension in the educational process. Indeed, the shift has continued and the changing approaches and theories have increasingly proliferated. In an attempt at providing a systematic review of MALL research within the specific field of SLA, Grönlund and Viberg (2012) found that the two main approaches that dominate the literature are content-related and design-related studies. However, the theories and approaches applied in MALL often originate from various theories of

learning, including Behaviorism and Constructivism. Taking into consideration the mediated nature of human mind, Grönlund and Viberg (2012) added that MALL research often relies on other learning theories such as Situated Learning Theory, Collaborative Learning Theory, and Informal and Lifelong Learning Theory. In addition, the currently popular approach to EFL is the Communicative Approach (Beatty, 2013). Hence, the implementation of mobile devices in education is related with different approaches.

1.3.1. Content-related

Content-based or content-related studies address an approach that concentrate on the development of activity types and learning materials. This type of study often focuses on more formal language learning contexts and considers mobile technologies as a means of delivering content to learners (Kukulska-Hulme & Shield, 2007). These approaches support teacher-learner communication and rely on mobile devices to deliver content rather than supporting learners to communicate. Divitini and Petersen (2004) explained that little or no emphasis is given to providing learning support where the learner is able to interact with other learners or parties that can support the learning process (cited in Kukulska-Hulme & Shield, 2007). In other words, content-related activities may support teacher-centered approach.

1.3.2. Design-related

Kukulska-Hulme and Shield (2007) consider design-related approaches as those that focus on design issues and learners' needs. Studies in this area are related to developing learning materials and activities for mobile devices as well as text-based content. Design-related approaches tend to refer to the informal nature of mlearning. Kukulska-Hulme and Shield also added that design-related differ from content-related approaches in that their emphasis is less on a traditional educational paradigm, in which the teacher provides

materials to learners (2007). Hence, design-related activities can support learners' autonomy.

1.3.3. Behaviorist Theory

In the behaviorist paradigm, learning is thought to be best facilitated through the reinforcement of an association between a particular stimulus and a response, stated Naismith et al. (2004). Applying this to educational technology, namely mlearning, the latter provides the ideal opportunity to present learning content (stimulus), gather learners' responses (response), and provide appropriate feedback (reinforcement) (Naismith et al., 2004). To illustrate, text messaging is one of the learning applications that relies on behaviorist theory. Many researchers (Alemi, Sarab & Lari, 2012; Derakhshan & Kaivanpanah, 2011; Kim, 2011; Stockwell, 2010) conducted their studies relying on behaviorist theory through content delivery by text messaging to mobile phones (Houser & Thornton, 2004). Other examples of behaviorist learning with mobile technologies are MMS, Voice recorder softwares, drill and feedback, Mobile Response System such as clickers, and so many other materials used to facilitate learning through mobile devices (Keskin & Metcalf, 2011). Figure 1.6 is an example of the application of behaviorism in formal learning. The teacher uses the application Reminder 101 to text students for the updates concerning the courses.

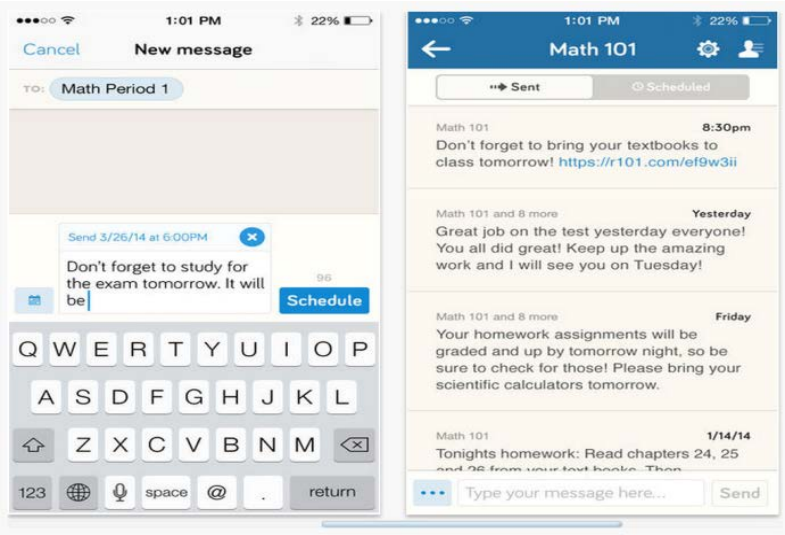


Figure 1.6. **Teacher messages students using the application Reminder 101, http://www.educatorstechnology.com/2014/03/the-best-two-web-tools-to-safely-text.html**

1.3.4. Constructivist Theory

In the constructivist theory, learners create inner mental models to acquire knowledge about the world. In other words, constructivism views learning as an active process in which learners build new ideas upon both their current and past knowledge. It is worth noting that there are two branches of constructivism; social constructivism and cognitive constructivism (Zhang, 2010). In order to transform learners from passive recipients of information to active constructors of knowledge, both appropriate learning environment and tools should be provided. Mobile devices offer a unique opportunity for learners to be active constructors of knowledge by embedding them in a realistic context and offering access to supporting tools (Naismith et al., 2004). Handheld games, interactive podcasting, emails, and multimedia are among many examples of constructivist activities using mobile technologies (Keskin & Metcalf, 2011). Figure 1.7 illustrates the use of an educational game as a way to construct grammatical knowledge.

***Figure 1.7*. English Monstruo (an educational game), http://a4.mzstatic.com/us/r30/Purple4/v4/eb/38/23/eb382385-1342-ac5b-8066-1a09b73a060c/screen480x480.jpeg**

1.3.5. Collaborative Learning

According to Naismith et al. (2004), collaborative activities are those that promote learning through social interaction. Collaborative learning is an extraordinary help, assert Tomei (2004), especially for the online learning as it improves interaction and peer-communication where the biggest voice will be from the learners. Applying to mobile learning, learners are enabled to learn a language in collaboration with others by sharing files, data, and providing means of coordination without attempting to replace human-to-human interactions. Mobile devices can be used collaboratively in real time through different MALL applications. For instance, EFL learners can exploit their digital devices to learn in a collaborative way through sending SMSs, sharing songs, data, and videos via Bluetooth, and speaking in group through Facebook.

1.3.6. Situated Learning

The theory of situated learning, as asserted by Lave & Wanger (1991), suggests that "learning which takes place in a particular language context is more effective than studying similar content in the classroom" (cited in Beatty, 2013, p. 3). Thus, situated learning theory is the combination between constructivist and social learning theories, claimed Tomei (2008). Situated activities promote learning within an authentic context and culture. Mobile devices are well suited to context-aware activities because of their availability allowing the learner to extent the learning process beyond the formal environment into authentic and appropriate contexts of use (Naismith et al., 2004). Beatty (2013) illustrated by imagining the situation; language learners, standing in a city street and looking for a good restaurant, may download a map and a short restaurant-related vocabulary lesson in order to engage in a conversation with native speakers asking for directions. Thus, situated learning requires knowledge to be presented in authentic contexts in order to be practiced within. Activities such as taking observational notes, taking pictures, recording students own reflections, listening to expert commentary, and many other situated learning activities can be facilitated through different mobile devices (Naismith et al., 2004). Indeed, the digital devices help language learners to grasp the information from the time and place surrounding them.

1.3.7. Informal and Lifelong Learning

Learning occurs not only inside the classroom, but also outside the classroom. According to Naismith et al. (2004), informal and lifelong activities support learning outside a dedicated learning environment and formal curriculum. It is learning all the time, influenced by one's environment and particular situations. Informal and lifelong learning intersects with "Just-In-Time-and-Place (JITP) Learning" (p. 274) in which learners

acquire, conceptualise, and understand information while facing particular situations (Tomei, 2008). Informal and lifelong learning may be intentional, through deliberate learning activities, or it may be accidental, stated Naismith et al., (2004), by acquiring information through reading newspapers, watching television, or even observing the world, or even experiencing an accident. Social networks, such as Wikipedia, Facebook, Twitter, Youtube, and so on and so forth, illustrated Keskin and Metcalf (2011) are some of various types of informal and lifelong activities that can be with mobile technologies due to their reduced size and ease of use.

1.3.8. Communicative Approach

Mobile language learning applications may provide the potential to support the communicative approach. The latter is one the current popular approaches to EFL as it encourages learners to interact with others, communicate, and negotiate language tasks, claimed Beatty (2013). Accordingly, Zhang (2010) asserts that the communicative approach concentrates on autonomy of learners and authenticity of materials. Pictures and videos, namely the ones shared in social media, become stimuli for conversations and negotiations of meaning.

1.4. Evaluating Mobile-assisted Language Learning

There are various criteria that should be fulfilled in order to use mobile learning specifically for educational purposes. Despite the fact that this new wave provides a wide range of affordances, mobile learning still faces some educational challenges.

1.4.1. Values and Affordances of Mobile-assisted Language Learning

Mobile technologies offer a wide range of practical uses in language learning. Mehdipour and Zerehkafi (2013) stated the various values and affordances offered by mobile learning. They are summarized as follows:

1.4.1.1. Portability

Due to their size and weight, mobile technologies can be taken to different places, and at anytime. When compared to PCs, devices used in MALL are more lightweight. Thus, they are more practical and provide the opportunity to bring new technology into the classroom as well as outside the classroom.

1.4.1.2. The Anytime-anywhere Advantage

The mobile technologies provide learning at the time we want, and in the place we want. That is, mobile learning lies for Just-in-Time-and-Place learning where web browsing and applications can provide instantaneous information to a learner's fingertips in moments. To illustrate, Figures below demonstrate examples of different possible settings in which learners may use their mobile devices to access to language learning materials and applications. Figure 1.8 shows the possible times when mobile language learning happen, while Figure 1.9 shows the possible places where mobile language learning happen.

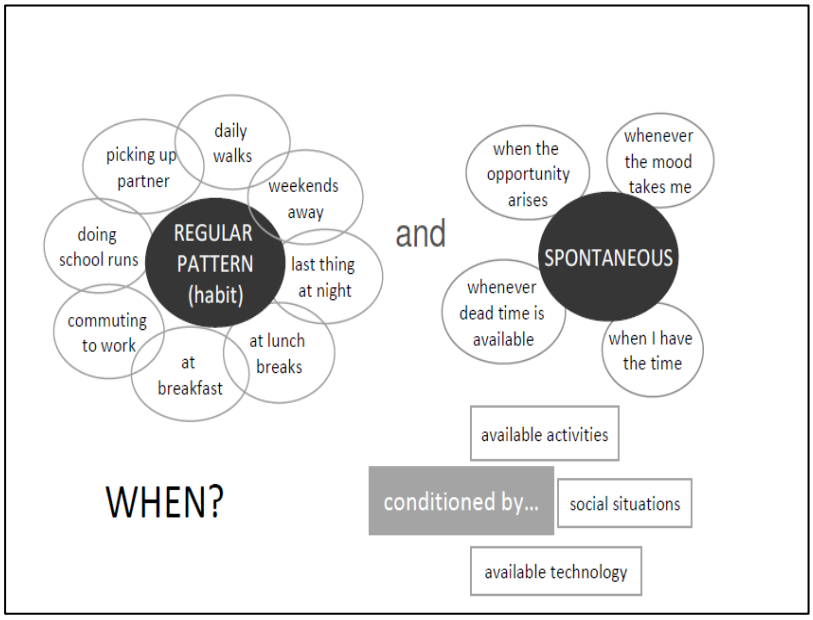


Figure 1.8. **Times when mobile language learning can happen, Kukulska-Hulme, 2012, p. 7.**

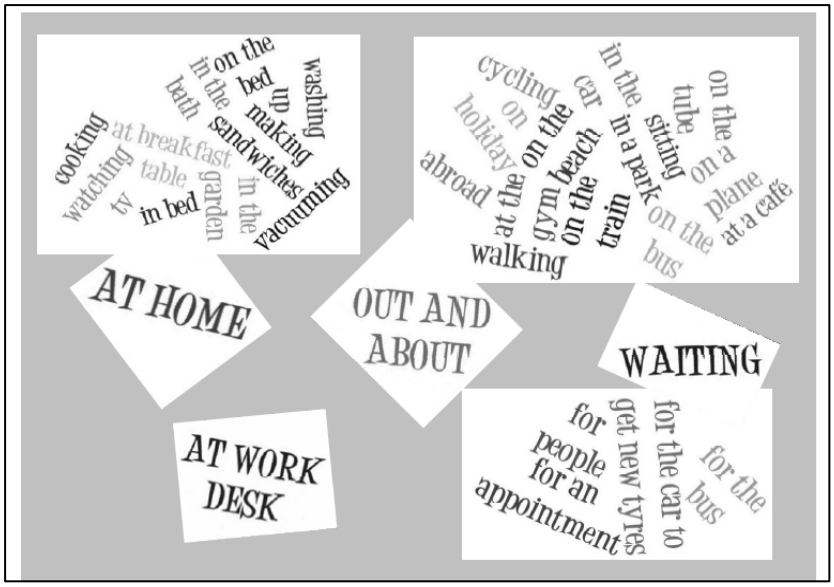


Figure 1.9. **Places where mobile language learning can happen, Kukulska-Hulme, 2012, p. 8.**

1.4.1.3. Ubiquity

Mobile device are readily available. This new wave of technology continues to spread among the world population due to the unlimited functions the mobile devices provide.

1.4.1.4. Coast

Mobile devices are typically less expensive than PCs and laptops, which makes them affordable for language learners. This affordance consolidates bridging the digital divide.

1.4.1.5. Interaction and Engagement

Mobile learning facilitates learner interaction with teachers; administration, and amongst peers. MALL also enhances learners' engagement because it fits different learning styles and enables learners to partake in learning activities.

1.4.1.6. Motivation

Learners get motivated when they experience now tools. The widespread ownership of different mobile devices increases commitment to using and learning from them because learners feel secure and spontaneous.

1.4.1.7. Collaboration

Due to the communication features of mobile devices, learners can work on collaboration among each other. For instance, several learners at different locations may perform the same activity. They can share files, multimedia, apps, and so many learning materials.

1.4.1.8. Assistive Technologies

Mobile technologies may assist learners with disabilities. The different innovative technologies can be integrated in special educational needs. Though, mobile learning activities may vary depending on the learner disability and it degree.

1.4.2. Challenges of Mobile-assisted Language Learning

Notwithstanding its benefits, MALL also poses related challenges. Those challenges may differ from one device to another. Mehdipour and Zerehkafi (2013) discussed mlearning barriers from different angles which are summarized as follows:

1.4.2.1. Technical Barriers

Mlearning poses a number of technical challenges. First of all, battery life of mobile devices and connectivity are at the top of challenges. Most of the time, learners have to limit their online connection times, while sometimes they may not have internet at all. In addition, screen size, key size, and limited audiovisual quality may cause visual problems to learners while performing activities delivered in small chunks. Moreover, learners often complain about

1.4.2.2. Educational Barriers

Mlearning still faces some educational and social challenges that decelerate its integration within teaching and learning process. Firstly, funding and affordability still are one of the obstacles faced in using mobile devices in education. For instance, some

educational applications require paying a sum of money. Few learners may pay, while others are not able to take in charge the high costs. In addition, developing the appropriate theory for mlearning activities may be a challenge for practitioners. Last but not least, another challenge that may be ignored is that mlearning can be risk of distraction for learners. Mlearning may disrupt learner's academic achievement because of misuse of devices and applications.

Nevertheless, with the rapid growth in innovative technologies, companies try to improve the mobile devices features to suit the various fields.

1.4.3. Affective Factors in Learning with Mobile Devices

While many external factors may affect learning languages through mobile devices, some internal ones also do have an effect. Indeed, affective factors play a crucial role in both enhancing and hindering the learning process; in which mobile devices may be both motivating and demotivating tools. Some learners may be influenced by personal previous experiences, particularly bad ones, or even by other learners' experiences. So they would shape negative attitudes and perceptions towards integrating mobile technologies in language learning. Although, some a significant proportion of learners tend to view mlearning as a motivating activity, instead. Six motivational features were presented by Isroff, Jones, and Scanlon (2006) at the workshop Big Issues in Mobile Learning including; (i) control over goals; (ii) ownership; (iii) fun; (iv) communication; (v) learning-in-context; and (vi) continuity between contexts (cited in Sharples, 2006).

1.4.3.1. Control over Goals

In the context of informal learning, learners have the control over their goals; they set learning goals which fit their educational needs. It is to say that mlearning enables learners

to partake in defining the tasks and activities they wish to engage in. learners therefore feel free and intrinsically motivated in learning with mobile devices.

1.4.3.2. Ownership

Furthermore, the personalised nature of mobile devices seems to give learners a sense of ownership which is often highlighted as a key motivational factor. Mlearning is viewed as a personal learning process because mobile devices are viewed as individual personal property when compared to other kinds of digital tools.

1.4.3.3. Fun

Mobile devices are viewed as a source of entertainment. In the context of mlearning, this feature helps learners to engage in the learning process without getting bored.

1.4.3.4. Communication

Many mobile devices are made to for communicating. This feature allows learners communicate among each others in a collaborative way.

1.4.3.5. Learning-in-context

Recognizing the context is the most distinctive feature in mlearning. To put it simply, mobile devices enable learners to access to whatever information they need, in whatever the context they are in, and share this information with others. To elucidate, learners can access to web sites from their mobile devices, downloading files at the time they need them.

1.4.3.6. Continuity Between Contexts

Due to the portability of mobile devices, learners have the chance to use the information captured in one context in other different context. This feature provides continuity between different settings, especially in informal learning; enabling learners to support their learning process over time and in different locations.

On the whole, these affective factors seem to be interrelated. They therefore suggest that learning with mobile devices is likely to be highly motivating and engaging. Though, and because of the interference of other affecting factors, mlearning could be undesirable and rejected.

1.5. Technology Use in Teaching

In implementing technology within the educational framework, some criteria should be taken into consideration so as not to hinder the teaching and learning process. The increased implementation of MALL inside the classroom may provoke an overlap between the traditional way of learning and the new technological one. Therefore, it is also significant to know if this new wave of educational technology is a replacement of traditional learning or it only acts a support.

1.5.1. A Model for the Effective Use of Technology in Teaching

Due to the unlimited affordances mobile devices provide, MALL seems to be the 21st Century educational movement that fits the classroom atmosphere and satisfies the learners' needs. Though, teachers should respect some criteria in order to use the technology as effective as possible. For that reason, many researchers have proposed models of the effective use of technology in teaching. Gutiérrez-Colón Plana (2012) reviewed Bates and Poole's model (2003), in which they defined eight criteria a teacher should consider when using technology in education.

1.5.1.1. The Appropriateness of Technology for Learners

It requires teachers to select the appropriate mobile device that not only fits the objective of the lesson but also that is simple for learners. Gutiérrez-Colón Plana (2012) explained that teachers unconsciously tend to choose appropriate tools; that are portable and easy to use.

1.5.1.2. Ease of Use and Reliability

Technology used should be practical so that both teachers and learners are able to use. It also should be reliable so that it works appropriately.

1.5.1.3. Costs

It is a vital criterion because if the teacher uses expensive technological devices, not all learners will be able to pay the coasts. Therefore, the technologies used should be available for all learners.

1.5.1.4. Teaching and Learning Approaches

Developing and using a rational approach is required when integrating technologies within lectures. "It is not drilling", claimed Gutiérrez-Colón Plana (2012). In other words, it is important that teachers use a variety of teaching methods that stimulates learners' 21st Century skills such as critical thinking as well as assesses the lessons' objectives.

1.5.1.5. Interactivity

Nowadays, language courses need to be two-ways in order to achieve better communication goals. When using technology, teachers often neglect the communicative aspect that language learning requires. So the learner faces difficulties while trying to use the language out of the device context.

1.5.1.6. Organizational Issues

Teachers should be aware of the different organizational constraints that may face them when using any kind of technology. Time constraints, unclear identification of technology benefits and many other constraints should be considered before.

1.5.1.7. Novelty

Gutiérrez-Colón Plana (2012) argued that most of learners prefer new technologies. Thus, if they are provided with sufficient information on how to use it, that would motivate them to use the technology.

1.5.1.8. Speed

Another critical criterion is that how quickly mobile platforms and learning materials can be developed. Gutiérrez-Colón Plana (2012) addressed the issue of payment; where learners find themselves obliged to pay for some learning applications and mobile courses.

Indeed, even though, mobile-assisted language learning is viewed as an effective add to the teaching and learning process, the implementation of the mobile technologies within teaching is not as simple as it may seem; it requires the efforts of all EFL practitioners.

1.5.2. Will mLearning Replace Traditional Learning?

The efforts towards implementing mobile devices into the classroom are increasing. Researchers and practitioners seek to exploit the various advantages of mobile devices. In fact, mobile devices provide learners with the possibility to learn outside the classroom; in an informal way with freedom to determine their own goals. While traditional learning restricts learners to predetermined goals and activities. For that reason, studies have been conducted to investigate the utility of mobile language learning within the classroom atmosphere. Indeed, many researchers agree that mlearning provides a wide range of opportunities for traditional classroom. Yet, it cannot replace it.

Mobile devices are considered as learning tools that can assist learners along their learning process. Thus, mobile language learning assists and supplements traditional learning rather than replacing it. Accordingly, Santos and González (2012) argued that due to the unique characteristics and capabilities offered by mobile devices, mobile learning provides new ways to supplement classroom learning. They claimed, "Mobile learning will not replace traditional learning (…)" (p. 304). Along the same vein, other researchers (Beatty, 2013; and Kukulska-Hulme, 2009) emphasized on the idea that mlearning is rather complementary, supportive, and assistive than a replacement. Moreover, mlearning not

only reinforces formal learning, but also takes learning beyond the classroom. The Flipped classroom and BYOD-bring your own device- are one of many approaches that focus on implementing innovative technologies within the educational process Beatty (2013) exemplified by Khan Academy's flipped classroom approach.

1.5.3.1.The Flipped Classroom and the In-Class Flip

Flipped classroom is an approach that consists of inverting traditional teaching methods; instead of providing the information inside the classroom and then accomplishing the homework at home, teacher delivers the material to learners in form of short video so as to learn it at home, then moving homework into the classroom for more practice. Indeed, it is a form of hybrid learning which encompasses the use of educational technology (the In-Class flip, 2014). Figure1.10 below demonstrates the concept of flipping the classroom.

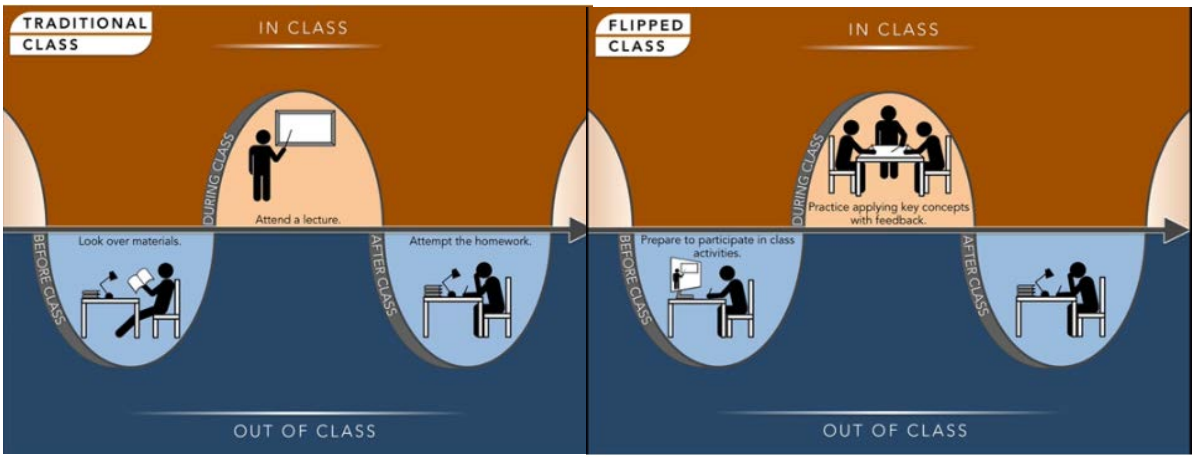


Figure 1.10. **The Flipped classroom concept,**

http://ctl.utexas.edu/teaching/flipping-a-class 2014

Though, if some learners may not have access to technology at home, the flip would collapse. Thus, educators developed an alternative which is the In-class-flip, which accounts for the inconveniences of flipped classroom. While the latter depends heavily on learning the material at home, the former consists of keeping all parts of the flip inside the

classroom to ensure that more learners benefit from the flipped concept. Figure1.11 demonstrates well the idea. The teacher is supposed to prepare a station where a group of learners watch the material (station 5). At the same time, the rest of the learners are supposed to warm up by practicing various activities related to the lesson (stations 1, 2, 3, and 4). Meanwhile, because the lecture has been prerecorded, the teacher is free to interact with learners in the other stations. Finally, Station 6 would be written work based on the material learned in the viewing station (station 5). It is here where the teacher would spend most of the time to ensure the appropriate application of the concepts of the video (the In-Class Flip, 2014).

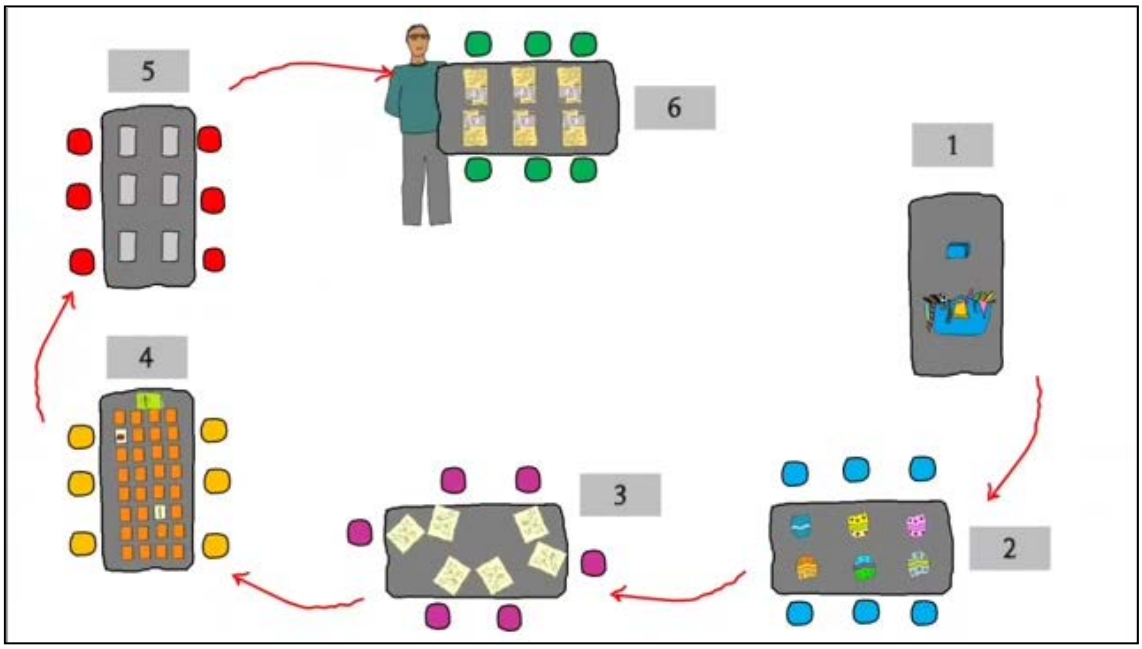


***Figure 1.11*. Graphic representation of In-Class**

Flip, https://www.youtube.com/watch?v=hhq3Yn_QgIA

1.5.3.2.BYOD (Bring Your Own Device)

In traditional learning atmosphere, learners are not allowed to bring their mobile devices, or even put them on their tables. However, with the educational shift, teachers find themselves in front of a new tendency; where learners are bringing their own devices to class. For that reason, teachers adapt themselves and exploit the advantages of mobile devices. BYOD refers to the fact that learners are permitted to bring their own mobile devices to class in order to be used to support their learning process. Learners are required to bring devices that fit certain criteria. Indeed, the types of mobile technology should be appropriate to the individual student, task type, and context (Sweeney, 2013).

Figure1.12. **Demonstration of BYOD concept, https://meraki.cisco.com/blog/tag/byod/**

Conclusion

Mobile learning is a new educational field that addresses the use of various mobile devices in teaching and learning; though, it still is an ill-defined concept because of the different perspectives related to. This implies Mobile-assisted Language Learning which is the use of handheld devices in language learning, emerging due to the widespread ownership of mobile technologies, enabling language learners to learn the language effectively, in different contexts; both formally and informally. Besides, mobile devices

offer tremendous variety of advantages that learners and EFL learners in particular can exploit. Nevertheless, there still are some issues that companies try to improve as the innovative technologies continue to evolve. Therefore, EFL practitioners investigated the possibility of replacing traditional learning by mobile learning. Still, mlearning can only support, complete, and assist traditional learning rather than replacing it. In fact, instructors may integrate mobile devices in classrooms through different methods and ways.

Chapter Two

Vocabulary Acquisition

Introduction

Vocabulary acquisition is regarded as the building block of language learning. It is considered as one of the most challenging tasks in learning a foreign language. Therefore, as EFL practitioners came to realize the significant importance vocabulary acquisition has in both learners' mastery of the language and EFL learners' communicative competency, the number of researches proliferated. Here, in this chapter, a definition of vocabulary as well as its importance is provided. Moreover, the various aspects of word recognition will be discussed regarding the essential impact it plays in vocabulary acquisition process. In addition, learners should be aware of the different types of vocabulary and the role of memory while acquiring new items. Therefore, a number of vocabulary learning strategies as well as the support of the new mobile technologies on the acquisition of vocabulary will be discussed.

2.1. Definition of Vocabulary

Every language has s set of words that differentiate it from other languages. Albert Lado (1974) claimed that "a word is a combination of sounds acting as a stimulus to bring into attention the experience to which it has become attached by use" (cited in Aichaoui, 2005, p. 17). Moreover, vocabulary is the sum of words that people use in order to communicate among each other. The American Heritage dictionary defines vocabulary as "the sum of words used by, understood by, or at the command of a particular person or group" (Pikulski & Templeton, 2004). Hence, vocabulary refers to the lexical knowledge

owned by people that enables them to receive and convey messages in order to succeed in their communications.

However, Aichaoui (2005) remarked that whenever referring to vocabulary, the emphasis is on words; although, the latter does not give the exact meaning. She claimed that it is better to use vocabulary items rather than words because vocabulary is not always a single word: for example, post-office and mother-in-law are two vocabulary items that are made up of two or three words. Vocabulary items that contain more than one word are sometimes called "'chunks', 'lexical bundles', or 'clusters'" (McCarthy and Carter (2002); O'Keeffe, McCarthy, and Carter, 2007; cited in McCarten, 2007, p. 8). Thus, it is more accurate to say vocabulary items.

2.2. The Importance of Vocabulary

Vocabulary is regarded as the vital part upon which every language is built. In addition to the vital role lexical knowledge plays in communication, vocabulary also has an impact on learning the different language skills. Hence, a large size of vocabulary is required for appropriate use of language.

First, EFL practitioners agree upon the significant role vocabulary acquisition plays in communicating and mastering English. Accordingly, Schmitt (2010) argued by exemplifying the fact that language learners tend to carry dictionaries instead of grammar books. Wilkins' quotation (1972) describes clearly the importance of vocabulary for communication; "without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (cited in Schmitt, 2010, p. 3). Along the same vein, Hatch (1983) stressed the importance of vocabulary and the strategies learners use in order to communicate effectively because "basic communicative competence is largely concerned with the strategies the learners use to solicit the vocabulary they need in order to meaning

across" (cited in Fisiak, 1990, p. 573). Furthermore, vocabulary contributes to a great extent to the overall language success. It is to say that a minimum amount of lexical items is necessary to enable the learner to listen, speak, write, and read. In fact, one is unable to write or decipher a written discourse without, at least, a minimum amount of lexis. For instance, native-speakers tend to use some low-frequent lexical items in their discourses, where the EFL learner would not be familiar with. This issue can be solved by improving the learners' the lexical size. Finally, the latter is one key issue in vocabulary studies. Indeed, the mastery of the complete vocabulary items is beyond not only foreign language learners but also native speakers. In fact, one's vocabulary size depends largely on the purpose of the learner; if the purpose is to achieve native-like proficiency, then it is supposed to have a vocabulary size similar to a native speaker (Schmitt, 2010). Accordingly, many researchers (Goulden et al., 1990; D'Anna, Zechmeister, and Hall, 1991) found that the vocabulary size of a native speaker is of around 200.000 word families (cited in Schmitt, 2000). Although, vocabulary size may vary from one person to another depending on the level of education, this may not be always applicable. In fact, "a crossword enthusiast may well have a wider vocabulary than a holder of a PhD" (cited in Schmitt, 2010, p. 6). In other words, the importance of vocabulary size depends largely on the communicative purposes of every learner.

On the whole, the basis of every language lies in its vocabulary which has a crucial impact on the mastery of the different aspects of the language. Hence, improving learners' vocabulary size facilitates learning the language as well as communicating as effective and appropriate as possible. In other words, the more EFL learners acquire vocabulary items, the better they learn the language.

2.3. Aspects of knowing a word

In addition to the importance of a large vocabulary size, some elements also need to be taken into consideration while acquiring new items. In fact, learners, namely EFL learners may know the orthography of a word, but they fail to pronounce it, or learners may know one meaning of a word; however, they are enable to decipher the other meanings in different contexts. Therefore, knowing a word involves much more than knowing its meaning. According to Nation (2001), to know any word, three interrelated aspects are required to know, and each aspect encompasses both a receptive and productive dimension (cited in Schmitt, 2010). In addition, one very significant dimension of vocabulary knowledge is the ability to distinguish between receptive and productive vocabulary.

2.3.1. Word Form

Word form, or orthographical knowledge, is considered as one of the key components to vocabulary knowledge in particular, and language learning in general. According to Nation (2001), knowing one word form involves knowing spoken form, written form, and word parts (cited in Schmitt, 2010).

2.3.1.1. Spoken Form

Firstly, spoken form, which underlies the pronunciation of the word, is the ability to know what the word sounds like in a continuous speech, as well as the ability to pronounce words clearly in a connected speech. The former is considered as a receptive dimension, while the latter is considered as a productive one. In fact, various phonological factors such as stress, pitch, volume, length of the syllabus, as well as features of the syllabus, stated Schmitt (2000), may interfere in the acquisition of new vocabulary items. For instance, EFL learners should recognise that the letter *O* can be pronounced in different ways such as post /pəʊst/, box /bɒks/, cool /ku: l/, and mother /mʌðə(ɹ)/.

2.3.1.2. Written Form

Secondly, mastery of word spelling, which consists of the written form of the word, is in itself an accomplishment for EFL learners. When acquiring new items, EFL learners are supposed to know what the word look like; which is the receptive knowledge, and how the word is written and spelled; which is the productive knowledge. Therefore, EFL learners should be able to not only to pronounce words but also to write them correctly. For instance, learners may know how to pronounce the word xenophobia; however, they may fail to provide its correct spelling; one may replace the letter x with the sound /z/.

2.3.1.3. Word Parts

Finally, word parts, such as prefixes, roots, suffixes, and word family, are the particular parts that constitute the particular vocabulary item. Thus, EFL learners should be aware of the parts that build the word and the parts that are needed to convey the meaning, that is, the different changes that can occur in word's meaning when adding or omitting a specific part. Indeed, knowing the word family also helps learners know meaning of the members of family. For instance, if learners know the meaning of the suffix able, they may derive the meaning of the words of the same root such as unable, disable, and so on. Therefore, the aspects of word form are interrelated and crucial for word recognition.

2.3.2. Word Meaning

It is not sufficient to acquire the form of the vocabulary item; its meaning should be encountered, too. The word meaning aspect underlies three sub-aspects: form and meaning, concepts and referents, and associations.

2.3.2.1. Form and Meaning

First, while facing a new vocabulary item, learners usually tend to connect the meaning of the word with its orthography. They seek to answer the two main questions: "What meaning does this word form signal? And what word form can be used to express this meaning?" (Schmitt, 2010, p. 17). The former question represents the receptive dimension. While the latter question represents the productive dimension. For example, if learners are aware of the past tense structure and that the past tense signals events in the past; they would be able to grasp the meaning.

2.3.2.2. Concepts and Referents

In addition, meaning consists of a relationship between a word and its referent. The latter represents the person, thing, action, condition, or case whether in real or in imaginary world. For instance, the word giraffe refers to the spotted animal with a very long neck in Africa (Schmitt, 2000). Therefore, learners should know what is included in this concept, as a receptive knowledge, and what items the concept can refer to, as a productive knowledge. However, the word-referent relationship is not always a direct one. On one hand, it is worth noting that a word rarely has just one meaning; the meaning may vary from one context to another. On the other hand, Aitcheson (1987) points out that there is a fuzzy boundary in meanings of a word (cited in Schmitt, 2000). In the case of proper nouns such as Nelson Mandela, the referent can precisely represent the concept. Nevertheless, more often, the referent is a class or category such as the word tradition. In that case, the meaning of the word may depend on the context because there are various traditions.

2.3.2.3. Word Associations

Finally, knowing a word involves knowing word associations. Schmitt (2000) claimed that words do not exist in isolation, and that they are related to each other in various ways. Word associations, therefore, are the mental relationships that relate a word with other words. In other words, when a word is provided to a learner, some other related words come to mind. To exemplify, when given the stimulus word abandon, learners provided approximately typical responses; 40% of the respondents gave the same word leave, 7% answered with the word ship, and 6% gave the word give up (Schmitt, 2000). Hence, the receptive knowledge appears when the learner is able to think of different other words that are related to a word, while the productive knowledge appears when the learner is able to replace one word with other related words.

2.3.3. Word Use

Knowing the form and the meaning of a word is not sufficient to acquire new vocabulary items. Word use is one aspect of word knowledge that consists of knowing the grammatical functions, the collocation, and the different constraints of word use, noted Nation (2001) (cited in Schmitt, 2010).

2.3.3.1. Grammatical Functions

Learners need to cover the grammar of any new acquired item because "the grammar language is the description of the ways in which words can change their forms and can be combined into sentences in that language", claimed Steven Pinker (1999) (cited in Aichaoui, 2005, p. 19). The grammatical function of a word includes word classes such as verbs, nouns, adjectives and the various classes, as well as the grammatical patterns in which a word typically occur. To elucidate, Schmitt (2000) reported that Hunston, Francis,

and Manning (1997) found that about twenty verbs have the pattern VERB *by* + ING VERB such as start, retaliate, and finish. For example, it is incorrect to say: the presenter finishes to thank the audience; however, it is correct to say: the presenter finishes by thanking the audience. Besides, as a receptive knowledge, learners should know the grammatical patterns in which the word may occur, and as a productive knowledge, they should know the patterns in which the word may be used.

2.3.3.2. Collocations

To know a word means to know the words that usually collocate with. According to Schmitt (2000), collocation is "the tendency of two or more words to co-occur in discourse" (p. 76). So, the main characteristic of collocation is the co-occurrence of two – or – three item groups in a discourse. Along the same vein, the co-occurrence of vocabulary items cannot be arbitrary; some words may be combined together, while other cannot. For instance, it is appropriate to say "fast asleep, and this is an acceptable collocation, but fast awake is not", commented Jeremy Harmer (2001) (cited in Aichaoui, 2005, p. 19). It is worth noting that there are two types of collocations: grammatical/syntactic collocations and semantic/lexical collocations (Schmitt, 2000). The former refers to the combination of a dominant word, typically a verb, noun, or adjective, and a preposition, for instance: think of. The latter, on the other hand, consists of combining two "equal words such as noun + verb (*ball bounces*), verb + noun (*spend money*), and adjective + noun (*cheerful expression*)" (Schmitt, 2000, p. 77). As far as the receptive and productive dimensions are concerned, EFL learners are supposed to know words or types of words that may occur with an item; this is the receptive knowledge, and what words or types of words that may be combined with an item, this the productive

knowledge. It is to say that learning collocations help EFL learners to speak and write English in an accurate way.

2.3.3.3. Constraints on Use

Knowing a word also involves knowing the constraints on its use. Accordingly, Nation (2001) noted that the receptive and productive dimensions of the constraints on use aspect appear in the recognition of the two parallel questions: "'Where, when, and how often would people expect to meet this word?' and 'Where, when, and how often can people use this word?' " (cited in Schmitt, 2010, p. 17). Register and frequency are the most significant constraints on using a word.

2.3.3.3.1. Register

It is also labeled "stylistic constraints, appropriacy" (Schmitt, 2000, p. 31). It refers to the appropriate use of lexis in a given situation, and for a specific purpose. Schmitt (2000) stressed the importance of register because, according to him, "extra meaning information colors the word and constraints how we use it" (Schmitt, 2000, p. 31). In fact, register encompasses

To begin, denotation and connotation are two aspects related to register. Denotation refers to the strict meaning of words captured by dictionaries – the literal meaning, whereas connotation refers to the implied meaning of words –positive and negative associations surrounding a word. For example, the word skinny means very thin, which makes many people happy to be described as so, this is the denotation. Though, skinny may have other implied meanings such as unhealthy and unattractive, which makes it inappropriate to be used in all contexts, this is the connotation.

Furthermore, Halliday (1978) suggested three components of register variation: field, tenor, and mode (cited in Schmitt, 2000). Field refers to the content and purpose of a

message, tenor describes the relationship between interlocutors, and mode is the channel of communication; that is, written or spoken. This has a relationship with pragmatic knowledge that implies to be aware of the appropriateness of using the specific lexis. In that case, the EFL learner is supposed to be conscious of the different types of register marking, such as formality and informality, frequency, and the ESP (English for Specific Purposes) vocabulary.

Hence, register variations can be a constraint to word knowledge, unless the learner is aware of the different nuances of register of a word, which enables them to develop their vocabulary size with being pragmatically competent, too.

2.3.3.3.2. Frequency

Knowing a word also means knowing the frequency of occurrence of that word. Word frequency refers to the number of times and the duration of contact with a word. Although, this aspect might be given an insignificant amount of importance, the frequency of a vocabulary items might be a constraint in the vocabulary acquisition process.

First, one can distinguish two types of word frequency; high-frequent vocabulary and low-frequent vocabulary. The former refers to the lexis that appears most often in corpora, whereas, the latter refers to the lexis that is not often used in corpora. Generally speaking, formal words such as technical terms tend to be less frequent, while colloquial words tend to be more frequent. To elucidate, one may express the state of working studiously, especially late into the night by saying: I was burning the midnight oil to finish my paper; which is an idiomatic expression that might be less frequent among EFL learners, but more frequent among English native speakers.

Another point is that frequency may differ from one mode to another as it may differ from one person to another. On one hand, the lexis used in written discourse varies from the lexis used in spoken discourse. To illustrate, the word *well* may be used more frequent

in spoken discourse, for example as a hesitation or as a filled pause. On the other hand, the amount of exposure to the language material and the type of material itself differs as the learners' needs differ. For instance, an architect's high-frequent vocabulary may not be the same as a biologist's high-frequent vocabulary.

In brief, word frequency may be a constraint that faces EFL learners in acquiring new items. However, one may overcome this constraint by learning the high-frequency lexis that are regarded as being more useful to EFL learners to acquire because they are more likely to occur in corpora.

2.3.4. Receptive and Productive Vocabulary

Word knowledge also involves the ability to distinguish between the receptive knowledge (also called passive) and the productive knowledge (also called active). Receptive vocabulary knowledge refers to the ability to understand a word when it is heard or read. Nation (2001) defines receptive vocabulary use as that of "perceiving the form of a word while listening or reading and retrieving its meaning" (cited in Nezhad, Moghali, & Soori, 2015, p. 20). On the other hand, productive vocabulary knowledge refers to the ability to produce a word in order to speak or to write. Accordingly, Nation (2001) defines productive use of vocabulary as "wanting to express a meaning through speaking or writing and retrieving and producing the appropriate spoken or written word form" (Nezhad et al., 2015, p. 19). It is generally believed that words are known receptively first and only after intentional or incidental learning become available for productive use. Nezhad, Moghali, & Soori (2015) claimed that a child's active vocabulary begins to increase when the child learns to speak or sign. It is also believed that learners' receptive vocabulary size is much larger than their productive vocabulary size. Thus, both receptive and productive vocabulary knowledge play a role in word recognition.

To conclude, vocabulary acquisition process is considered as complex in nature as it is not instantaneous; foreign language learners might learn a new item over a period of time from numerous exposures. Knowing as word, therefore, may be one of the most challenging tasks that may face a foreign language learner. It is worth noting that foreign language learners tend to prioritise one aspect over another. Nevertheless, the aspects of word recognition are interrelated. Thus, they should strive to balance form, meaning and use, in addition to being aware of the distinction between the vocabulary knowledge they acquire; whether it is receptive or productive vocabulary.

2.4. Types of Vocabulary Learning

According to Nezhad et al. (2015), vocabulary learning falls into four main types, explicit, implicit, incidental, and intentional.

2.4.1. Explicit Vocabulary Learning

Explicit vocabulary acquisition is generally defined as the deliberate attention to learn new vocabulary items. Moreover, Nezhad et al. (2015) stated that explicit learning can be associated with learning vocabulary out of context, for example, acquiring vocabulary from lists of words, as it can appear in context, for instance, reviewing new words in a text after reading and noting down their meanings. Explicit vocabulary learning is also regarded as a more conscious process, declarative, and inconsistent because the learner makes and tests a hypothesis in a search for structure. Schmitt (2000) also added that despite the fact that explicit learning of vocabulary is time-consuming and too laborious for learners to learn an adequate size of lexicon, it gives the greatest chance for the acquisition of vocabulary.

2.4.2. Implicit Vocabulary Learning

Implicit vocabulary learning refers to the unconscious process of acquiring of vocabulary, which takes place naturally and simply. Among the many features of implicit learning, one can readily refer to the unconscious status of the knowledge acquired by learners, claimed Reber (1989); another feature of implicit learning which is more contingent is the extent to which implicit learning is related to attention (cited in Nezhad et al., 2015). Moreover, implicit learning is associated with learning vocabulary in context, for instance, when learning words while reading or listening without paying special attention to them. But it can also take place out of context. For example, when learners repeatedly review a vocabulary list, the learners' knowledge of the words and their meanings tends to become automatically learned. Therefore, reading seems to be the best method for implicit vocabulary learning. Thus, implicit learning is intuitive, procedural, systematically variable, automatic, and thus available for use in fluent unplanned language use.

2.4.3. Incidental Vocabulary Learning

Incidental vocabulary learning is generally defined as the learning of vocabulary as the by-product of any activity not explicitly geared to vocabulary acquisition (Nezhad et al., 2015). Incidental vocabulary learning can occur when one is using language for communicative purposes, and so gives a double benefit for time expended. Thus, it is slower, more natural, and more gradual (Schmitt, 2000). Furthermore, according to Nezhad et al. (2015), the notion of incidental learning is distinct from the notion of implicit learning, which takes place outside of awareness. While implicit learning can be incidental only, explicit learning can be both intentional and incidental. This view is different from others, where incidental learning is considered to occur when the object of learning is not the focus of attention. It is widely believed that most vocabulary, in both first and second

language, is acquired incidentally; in other words, as a by-product of such receptive activities as reading and listening while the focus is not vocabulary learning but some other purposes. Though, when it comes to reading, a certain amount of explicit vocabulary is probably necessary as a perquisite (Schmitt, 2000).

2.4.4. Intentional Vocabulary Learning

Intentional vocabulary learning refers to activities that aim at vocabulary development predominantly in which learners need to pay attention to the words they want to learn. Hulstijn (2006) claimed that, "Intentional learning refers to the learning mode in which participants are informed, prior to their engagement in a learning task, that they will be tested afterward on their retention of a particular type of information" (cited in Alemi & Tayebi, 2011). In other words, intentional vocabulary learning is defined as any activity geared at committing lexical information to memory, stated Hulstijn (2001) (cited in Derakhshan & Khodabakhshzadeh, 2011).

To sum up, Alemi and Tayebi (2011) discussed the difference between the two dichotomies implicit and explicit learning, and incidental and intentional learning, respectively. They claimed that the two dichotomies are not identical:

Since implicit competence is incidentally acquired, is stored implicitly and is used automatically, it means more than incidental learning (…) incidental learning differs from implicit learning in that it is a behaviorist notion "with the meaning of a new word being acquired totally unconsciously as a result of abstraction from repeated exposures in a range of activated contexts" (…) On the other hand, explicit learning involves awareness at the time of learning, whereas intentional learning occurs by deliberately attempting to commit new information to memory. (p. 83)

2.5. Role of Memory in Vocabulary Acquisition

Memory has a key interface with language learning, namely vocabulary acquisition. Schmitt (2000) discussed the relationship between memory and vocabulary acquisition. He claimed that memory is the best predictor of both eventual vocabulary and grammar achievement. Therefore, memory and vocabulary acquisition are two interrelated notions that work in parallel and have mutual issues.

First, it is worth noting that memory comes in two basic types: short-term memory (also known as working memory) and long-term memory. The latter retains information for use in anything but the immediate future. The former is used to store or hold information while it is being processed. Schmitt states that short-term memory can hold information for only a matter of seconds (2000). He adds that short-term memory is fast and adaptive but has a small storage capacity, while long-term memory is relatively slow and has an almost unlimited storage capacity. As far as vocabulary acquisition is concerned, the object, according to Schmitt, is to transfer the lexical information from the short-term memory, where it resides during the process of manipulating language, to the more permanent long-term memory (2000).

Along the same vein, it is believed that learners do not necessarily acquire vocabulary in a linear manner, with only incremental advancement and no backsliding. Therefore, learners may forget the newly acquired input, which is a natural fact of learning. Schmitt (2000) asserts that most of the forgetting occurred with words that are only known receptively; productive words are much less prone to forgetting. He also found that the process of learning and forgetting occurs until the word is mastered and fixed in memory.

Moreover, forgetting can also occur with relatively known words; in case of not using the foreign language for a long time or abandoning the course of language study; which is known as attrition. According to Schmitt, both receptive and productive knowledge can be forgotten. Receptive knowledge does not attrite dramatically, and the affected lexis would be peripheral words such as low-frequency words. It also appears that the rate of attrition is independent of learners' proficiency level. It is to say that learners who know more will lose about the same amount of vocabulary knowledge as those who learn less, claimed Schmitt (2000). It is believed that when learning new information, most forgetting occurs soon after the end of the learning session. Figure 2.13 illustrates the typical rate of forgetting, which decreases after the major loss.

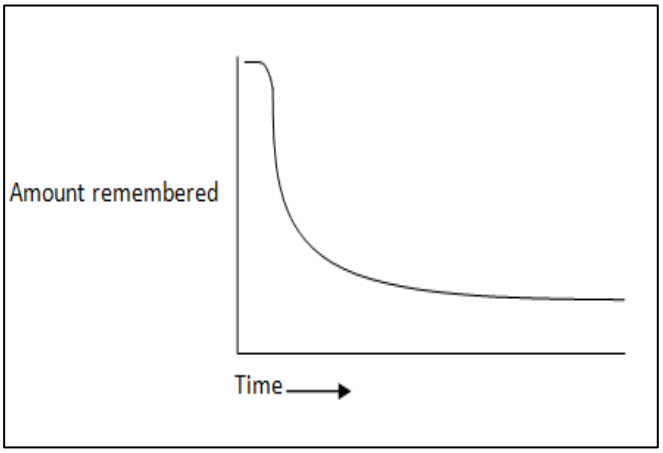


***Figure 2.13*. Typical pattern of forgetting, Schmitt, 2000, p. 131.**

Finally, by understanding the nature of forgetting, the process of vocabulary acquisition would be facilitated. Thus, to overcome forgetting, Schmitt (2000) suggested the principle of "expanding rehearsal" (p. 130). The expanded rehearsal suggests that learners review new material soon after the initial meeting and then at gradually increasing intervals. Schmitt (2000) also proposes an explicit memory schedule in order to minimize the forgetting; to review the input five-ten minutes after the end of the study period, 24 hours later, one week later, one month later, and finally six months later. This principle can be

personalised depending on the learners' mastery of the input. Figure 2.14 demonstrates the forgetting pattern with expanded rehearsal.

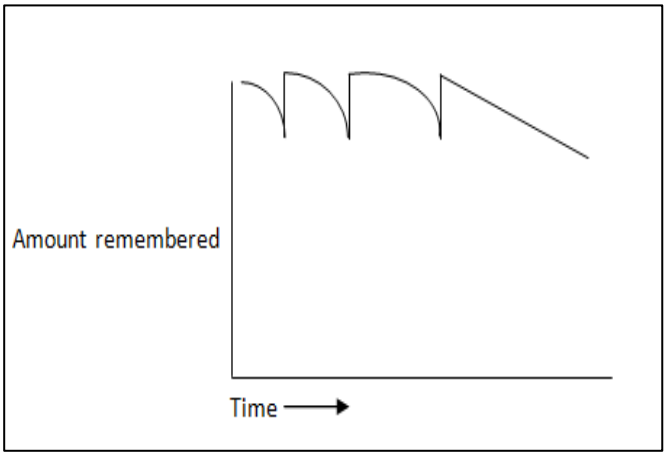


***Figure 2.14*. Pattern of forgetting with expanded rehearsal, Schmitt, 2000, p. 131**

To sum up, memory plays an important role in acquiring vocabulary. So, learners should be aware of the processes of memorising and forgetting the lexical items so as to minimize the forgetting and maximize the remembering. Therefore, expanding rehearsal seems to be an effective way to manage the review of partially known vocabulary.

2.6. Vocabulary Learning Strategies

EFL learners tend to depend on a set of learning strategies that fit their learning needs. It is believed that EFL learners use more strategy for vocabulary learning than for any other language learning activity, including listening comprehension, oral presentation, and social communication (Schmitt, 2000). In addition, different scholars identify vocabulary learning strategies differently. Commonly used vocabulary learning strategies seem to be simply memorisation, repetition, and taking notes on vocabulary. However, there are numerous strategies that require significant active manipulation of information such as imagery, inferencing, and other strategies. Good learners often use multiple vocabulary learning strategies concurrently in order to regulate and structure their vocabulary learning. Moreover, Schmitt (2000) states that the effectiveness with which learning strategies can

be both taught and used will depend on a number of variables, including the proficiency level, L1 and culture of students, their motivation and purposes for learning the language, the task and text being used, and the nature of the L2 itself.

According to Schmitt (2000), there are numerous different vocabulary learning strategies that vary from one learner to another. He divided and classified the various strategies so that to organise them. First, the list is divided into two major classes: (1) strategies used to discover a new word's meaning, and (2) strategies to consolidate a word once it has been learned. Each class encompasses groupings and sub-strategies used to acquire vocabulary items. The groupings are determination strategies, social strategies, memory strategies, cognitive strategies, and metacognitive strategies.

2.6.1. Determination Strategies (DET)

First, determination strategies refer to the strategies used by learners depending on themselves in order to discover a new word's meaning, that is, learners do not recourse to another person's expertise. For example, learners may guess a new word's meaning depending on the word's grammatical patterns, depending on external resources such as dictionaries, and guessing from context.

2.6.2. Social Strategies (SOC)

When facing a new word, learners may also recourse to another person's expertise such as a teacher or a classmate in order to discover its meaning. Thus, social strategies depend on interaction with other people who can provide help. The learner may recourse to a teacher or a classmate for the meaning of the target vocabulary and they can help in a number of ways such as giving synonyms, antonyms, or translation. However, Schmitt

(2000) found that, at least his Japanese subjects, preferred to study vocabulary individually.

2.6.3. Memory Strategies (MEM)

Memory strategies, traditionally known as mnemonics, involve elaborative mental processing that facilitates long-term retention of vocabulary knowledge. Schmitt (2000) asserts that memory strategies consist of relating the new word with some previously learned knowledge, using some form of imagery, or grouping. This can be through relating the new word with an existing knowledge such as previous experiences or known words or with images created by one's mind so as to ease the word's meaning retrieval. Keyword Method and semantic maps are one of the mnemonic strategies in which the principle is to find ways to memorise new words. In the former, the EFL learner tries to find a link between the target word in English and the word in L1. For instance, the word sugar in Arabic sounds like the word sugar in English. While in the latter, the EFL learner tries to brainstorm words that are related to the target word. For example, one may link the word classroom with the following words: teacher, student, table, and chair. In fact, memory strategies might take time, unless the time spent is on words that the learner really needs to learn.

2.6.4. Cognitive Strategies (COG)

The mental processes play a major role in the acquisition of vocabulary words. Cognitive strategies refer to the mental functions the mind has and uses in order to learn vocabulary. Schmitt (2000) stated the difference between memory strategies and cognitive strategies; the major difference is that cognitive strategies do not focus on manipulating the input; however, the focus is on memorising through keeping vocabulary notebooks, repetitions, and other mechanical means to acquire vocabulary.

2.6.5. Metacognitive Strategies (MET)

Finally, EFL learners tend to learn vocabulary items in a more conscious, planned, evaluated, and monitored ways. In other words, the learner is aware of the way vocabulary is been acquired by adopting the metacognitive strategies. The latter seems to be an organised strategy that permits learners to take responsibility of their own learning.

The following table (Table 2.2) summarises the classified vocabulary learning strategies with some examples of every strategy.

Strategy group	*Strategy*
Strategies for the discovery of a new word's meaning	
DET	Analyse part of speech
DET	Analyse affixes and roots
DET	Check for L1 cognate
DET	Analyse any available pictures or gestures
DET	Guess meaning from textual context
DET	Use a dictionary (bilingual or monolingual)
SOC	Ask teacher for a synonym, paraphrase, or L1 translation of new word
SOC	Ask classmates for meaning
Strategies for consolidating a word once it has been encountered	
SOC	Study and practice meaning in a group
SOC	Interact with native speakers
MEM	Connect word to a previous personal experience
MEM	Associate the word with its coordinates
MEM	Connect the word to its synonyms and antonyms
MEM	Use semantic maps
MEM	Image word form
MEM	Image word's meaning
MEM	Use Keyword method
MEM	Group words together to study them
MEM	Study the spelling of a word
MEM	Say new word aloud when studying
MEM	Use physical action when learning a word
COG	Verbal repetition
COG	Written repetition
COG	Word lists
COG	Put English labels on physical objects
COG	Keep a vocabulary notebook
MET	Use English-language media (songs, movies, newscasts, etc.)
MET	Use spaced word practice (expanding rehearsal)
MET	Test oneself with word tests
MET	Skip or pass new word
MET	Continue o study word over time

Table 2.2. Examples of vocabulary learning strategies, Schmitt, 1997 (cited in Schmitt, 2000, p. 134).

2.6.6. Vocabulary Acquisition and Wide Reading

Reading is considered as a key means to vocabulary improvement. Therefore, wide reading may be considered as a vocabulary learning strategy because it is believed that the more learners read, the richer their vocabulary becomes. In fact, reading can provide a good context for incidental vocabulary learning. Along the same vein, Schmitt (2000) points out that extensive reading may be beneficial for learners. He suggests that graded readers, which are books written with a controlled vocabulary and limited range of grammatical structures, are beneficial for beginning learners, whereas, narrow reading, which consists of reading numerous authentic texts on the same subject, is appropriate for intermediate learners. Reading newspapers provides benefits to learn practical vocabularies, whether high-frequent or low-frequent vocabulary items. In addition, learners should be able to decipher words' meaning from context, which may be through different strategies. Figure 2.15 demonstrates a strategy for deriving a word's meaning while reading. To sum up, wide reading should be encouraged and learners should read what motivates them.

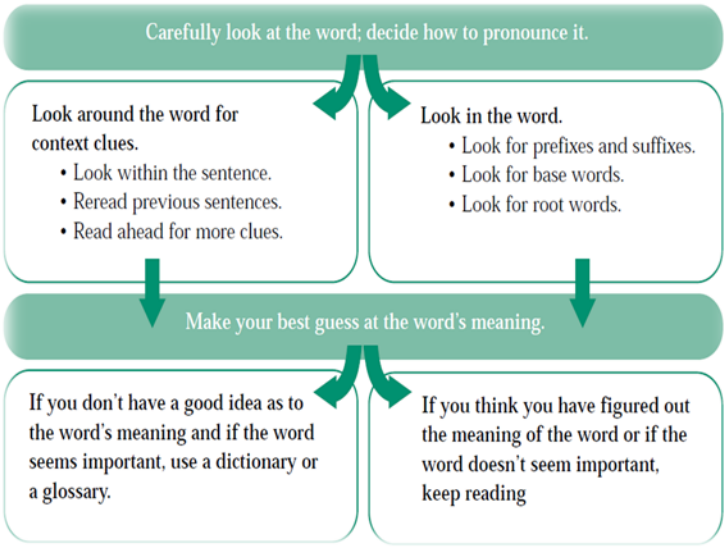


Figure 2.15. **Strategy for deriving word meanings, Pikulski and Templeton, 2004, p. 8.**

2.7. Mobile Technologies in Vocabulary Acquisition

The rapid growth of mobile devices has brought new perceptions into the field of vocabulary acquisition. The digital devices assist the process of acquiring new vocabularies through various mobile activities. Researchers have been investigating the area of vocabulary acquisition with regard to mobile devices usage in order to compare between the traditional methods in teaching and learning vocabulary that rely on paper and pen, and the new methods that rely on mobile technologies. The studies differ as the tools and techniques differ; some studies (Houser & Thornton, 2004; Kamalian & Sayadian, 2014; Kennedy & Levy, 2008; and Kim, 2011) focused on used text messaging as a powerful tool to deliver vocabulary related activities, other studies focused on the device itself (Hu, 2013; and Stockwell, 2010). However, various mobile vocabulary activities and tools may be personalised by the EFL learners so as to fit their needs. Here, some selected examples of vocabulary activities and strategies that can be facilitated through different mobile devices are provided.

2.7.1. Text Messaging

Text messaging seems to be the most frequently employed tool in vocabulary learning research. This may include explicit as well as incidental vocabulary learning activities. In other words, it can be through deliberate messaging of vocabulary items, for example, a teacher sends a word per day through SMSs to their students, as it can be through unintentional vocabulary acquisition as one may send SMSs and emails using EFL. Text messaging through social media is considered as an effective means to learn vocabulary. It can take many different forms, such as wikis (Wikipedia), blogs, microblogs (Twitter), social networking (Facebook), video sharing (Youtube), photo sharing (Flickr), and shared bookmarking (Pearltrees).

2.7.2. Games

Different studies have revealed that EFL learners can make vocabulary acquisition an entertaining, funny, and motivating task through selected games. The rise of different educational games dedicated to learn vocabulary enables EFL learners to acquire new vocabulary items. Vocabulary games include crossword puzzles, picture-word matches, word scrambles, and so many other games. 4 Pics 1 Word and Free Rice are two widespread educational games that help in developing vocabulary knowledge in an entertaining way. The former is a word puzzle game in which the player is supposed to provide the correct word that corresponds to four pictures. The latter is a free –to-play website, in which the original subject with which the game was lunched is English vocabulary that allows players to learn and donate at the same time by playing multiple choice quiz games. Thus, games can be a means of entertainment and education at the same time.

2.7.3. Mobile Applications (Apps)

Mobile applications, or apps, are a few of the available offers of mobile devices that can enhance vocabulary acquisition. The applications vary as mobile devices learners' needs and strategies vary. The mobile apps range from flashcards, notebooks, dictionaries, translators, to ebooks/audio books, and so on. EFL learners may download the application that suits their learning styles. For instance, visual learners may download ebooks and flashcards, while auditory learners may download audio books. Another tool for vocabulary learning are mobile dictionaries which are good alternatives for hard copy dictionaries; they provide not only definitions and synonyms, but also abbreviations, antonyms, translations, idioms, phrasal verbs, and so many other options. One may also use the notebook application to make a documentary of collected vocabulary. One may

download the application accessed through the appropriate operating system (Androids, iOS, laptops, desktops) the newly acquired vocabulary items.

2.7.4. Websites

With the arrival of the 3G mobile devices, the problem of internet connection has been partially solved. Thus, EFL learners may take advantage of the different websites that provide a wide range of vocabulary activities, anytime and anywhere. Websites such as Fluent in 3 Months, Babbel.com, and the blog Language Mastery provide rich platforms that assist learners' vocabulary acquisition. So, EFL learners may take advantage of numerous websites that may fit their learning styles and enhance their vocabulary acquisition.

2.7.5. Exploiting the Mobile Features

One may exploit the various features available in the mobile device such as the camera, the voice recorder, Bluetooth, MP3/MP4 player and so many other features. Learners may use the camera to take a picture of something they want to know its name, as they may use it to produce a short movie or animation show of some vocabularies they have acquired. They may also record their voices as well as native speakers' conversations to learn the pronunciation**.** In fact, this would make it possible to extend MALL activities, namely vocabulary related activities, to the low-tech and low-cost mobile devices.

To conclude, the mobile devices are part of the EFL learners' everyday routine which facilitates their implementation within the learning process, namely the vocabulary learning process. They also help bridging the gap between classroom (formal learning) and the outside world (informal learning).

Conclusion

Vocabulary acquisition is the key component to mastering any language. Thus, EFL learners should be aware of the key notions of vocabulary development in order to better enhance their vocabulary knowledge. First, learners are supposed to be aware of the importance vocabulary knowledge has. Moreover, learners should know that knowing a word entails having mastery not only over one aspect of the word but also other various aspects of word knowledge; the word form, word meaning, and word use. In addition, it is significant to know the types of vocabulary and how vocabulary items are processed and stored in memory. Then, learners can acquire vocabulary through different strategies and methods, whether through traditional means or through mobile technology means. To sum up, understanding key notions of vocabulary and how vocabulary is acquired can help learners adopt the effective strategy that suits their needs and styles.

Chapter Three

Data Interpretation and Analysis

Introduction

The aim of this research is to explore the effectiveness of Mobile-assisted Language Learning approach in enhancing EFL students' vocabulary acquisition at Biskra University. This implies investigating how both teachers and students use their mobile devices and evaluate their usefulness in the teaching and learning process, namely in vocabulary acquisition. Thus, data for this study is collected by means of students' questionnaire and teachers' interview. The chapter begins by introducing the methodology as well as the instruments and tools adopted in this study. Second, this chapter deals with the description, analysis, and interpretation of the students' questionnaire and teachers' interview. Therefore, the findings are carefully discussed in order to answer the research questions, hence, to test the research hypotheses produced in the introduction. Finally, the chapter ends up with the possible limitations, and the pedagogical implementations of the study.

3.1. Rationale for Research Approach

This study has adopted a mixed methodology because "this combination has great potential for future research as it can bring out the best of both approaches while neutralizing the shortcomings and biases inherent in each paradigm" (Dörnyei, 2003, pp. 130-131). First, a student's questionnaire aims at gathering both numerical and descriptive data in order to answer the first three research questions stated earlier in the introduction, while a teachers' interview intends to answer the last research question of this study. As such, this study quantitatively and qualitatively describes the data collected by means of students' questionnaire and teachers' interview.

3.2. The Students' Questionnaire

The students' questionnaire aims to collect the necessary data in order to explore the effectiveness of MALL in enhancing EFL students' vocabulary acquisition. in addition, it aims to measure students' attitudes towards the use of MALL.

3.2.1. The Sample

Based on a simple random sampling technique, thirty (30) EFL students were chosen randomly from the total number of the five grades of LMD students' population (undergraduates + postgraduates) at Biskra University. The selection of this sample was based on the fact that both undergraduate and postgraduate EFL students do not have an official vocabulary course; although, vocabulary builds all the other courses. Thus, it is expected that the participants would rely on other sources such as their digital devices to learn vocabulary.

3.2.2. Description of the Questionnaire

First, the choice of collecting students' data by means of questionnaire is due to the fact that questionnaires are "extremely versatile, and uniquely capable of gathering a large amount of information quickly in a form that is readily processable" (Dörnyei, 2003, p. 1). So, the students' questionnaire aims at investigating the extent to which EFL students at Biskra University use their digital devices to learn English, namely to acquire vocabulary. However, the main focus of the student's questionnaire is on exploring the effectiveness of using mobile devices to increase students' vocabulary knowledge.

The questionnaire consists of twenty (20) questions which are arranged in a logical way. The questions range from closed ended to multiple choice, with few open ended questions to get respondents comments. The questionnaire is divided into four main parts.

Part One contains general information, with two questions devoted to gender and level of proficiency. Then, Part Two is related to the first research question formulated in this study. It investigates the extent to which EFL students use their mobile devices, in general, and what affordances and challenges they think mobile learning brings. Next, Part Three, relating to the second research question, focuses on collecting information related to Mobile-assisted Language Learning with regard to learning English. Finally, Part Four is the main core of this study. It is related to the third research question and aimed at exploring the extent to which EFL students at Biskra University use their mobile devices to acquire vocabulary and how they perceive the usefulness of mobile technologies as tools to acquire vocabulary.

3.2.3. Analysis of the Questionnaire

Excel statistical software is used in order to analyse the quantitative data of the students' questionnaire, while the open-ended questions are descriptively discussed.

Part One: General Information

Q1- Specify your gender

Option	Number	Percentage%
a	15	50
b	15	50
Total	**30**	**100**

Table 3.3. Student's gender

The Table 3.3 shows that the number of female is equal to the number of male. The question aimed to know if gender has an effect on using mobile devices.

Q2- Specify your knowledge of English

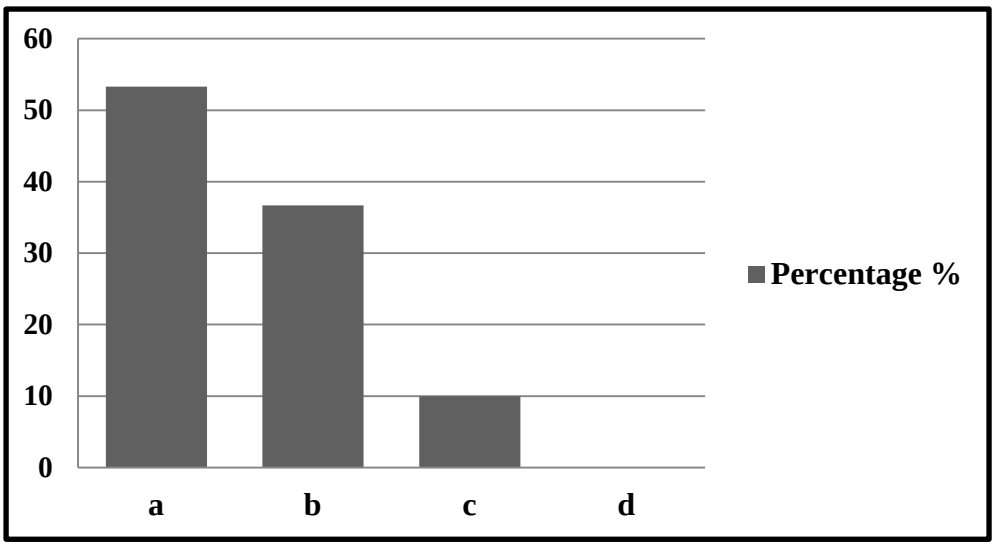


Figure 3.16. **Students' level in English**

The graph indicates that all the respondents knew their level in English. The majority evaluated their level of proficiency as good. Others showed that they have an average level in English. The least percentage of students showed that their level is less than average.

Part Two: With Regard to Mobile Devices Usage

Q3- What kind of mobile devices do you have?

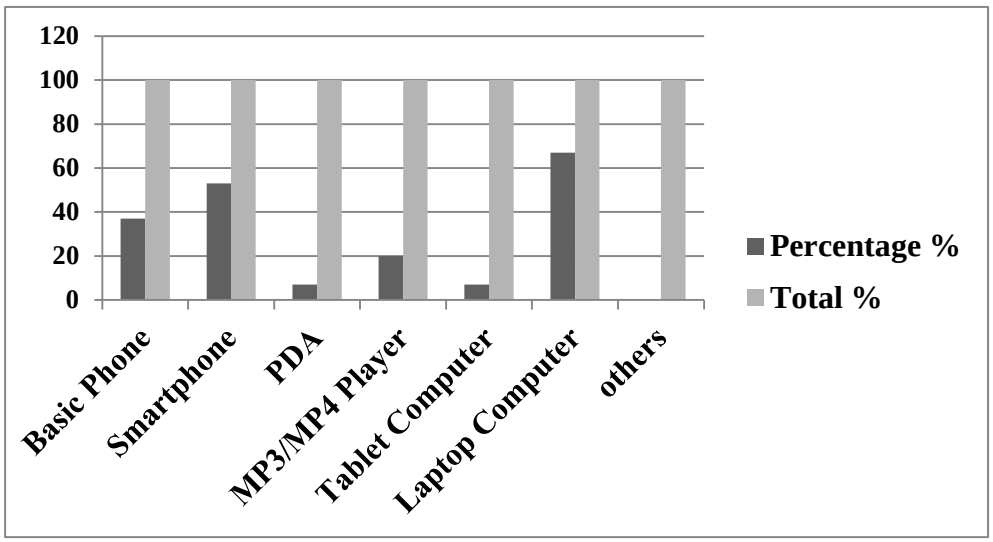


Figure 3.17. **Students' ownership of mobile devices**

As Figure 3.17 denotes, the widespread digital device among the respondents is the laptop computer. The Smartphone comes at the second place, while the basic phone at the third place, then the MP3/MP4 players. The least percentages refer to the tablet computer and PDA. The respondents did not state any other devices.

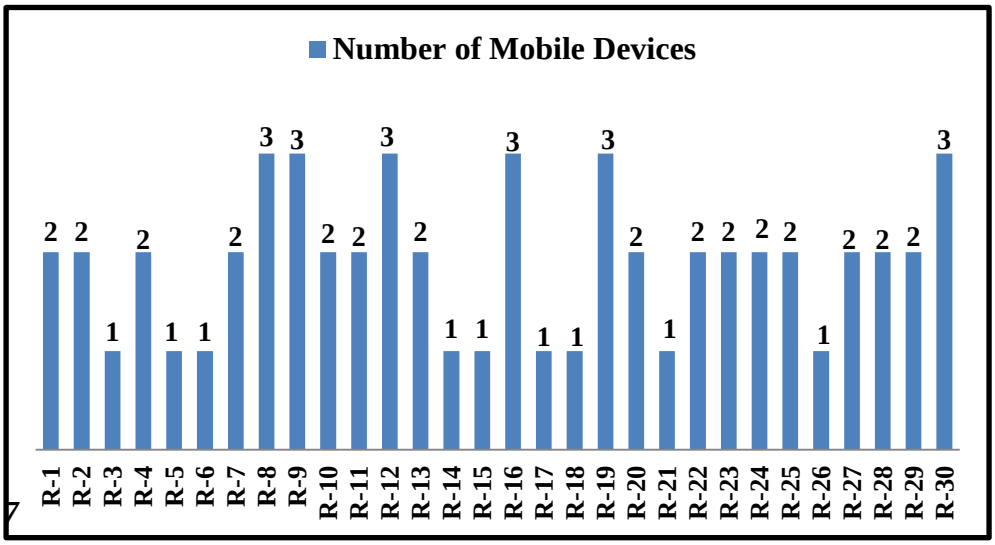


Figure 3.18. **The dispersion of mobile devices among the EFL students**

Mobile devices are widespread among students. As demonstrated in Figure 3.18, each respondent (R-) owned at least one mobile device.

Q4- How often do you use your mobile device applications (per day)?

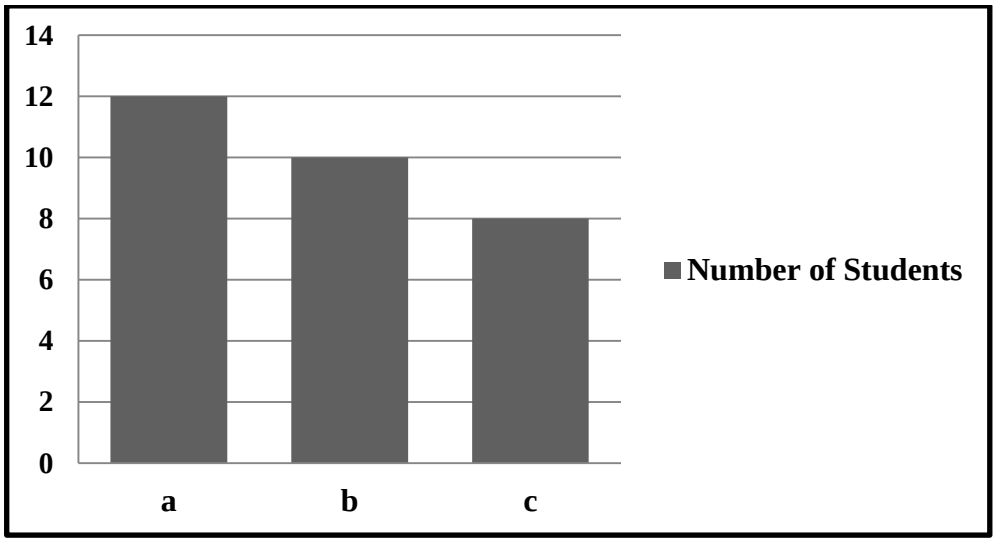


Figure 3.19. **Frequency of using mobile devices (per day)**

It can be seen from the graph that the majority of the respondents spend less than one hour per day on their mobile device applications. Ten respondents claim that the time spent range from one hour to three hours. The rest of the respondents claim that they surf on their mobile applications more than three hours per day.

Q5- What kind of activities do you often use with your mobile device?

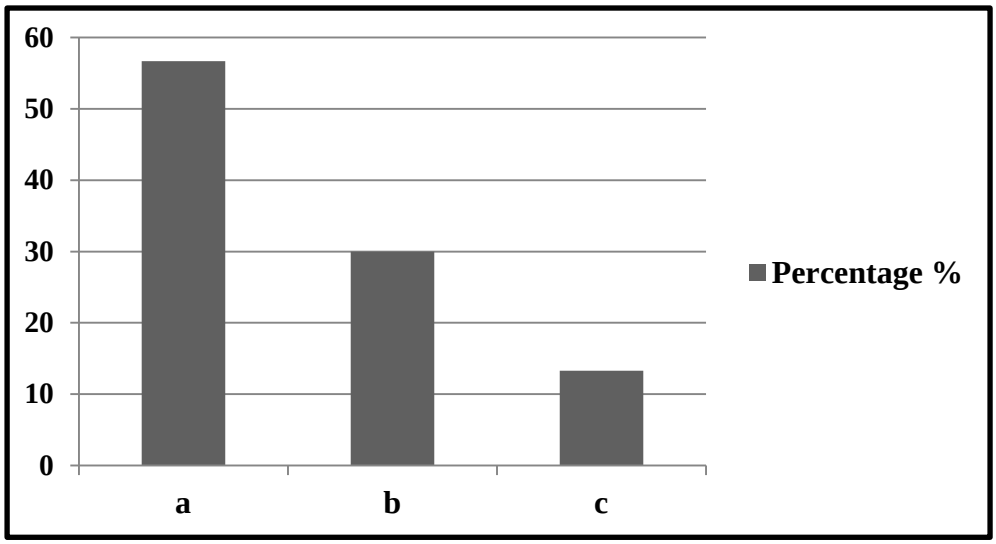


Figure 3.20. **Ranking of most frequent activities**

From the graph, most of the students place social networking activities as their first preference, 30% of the respondents use their mobile devices for entertainment activities, while learning English is placed at the least preferred state.

- **Would you provide examples of the applications accessed through your device?**

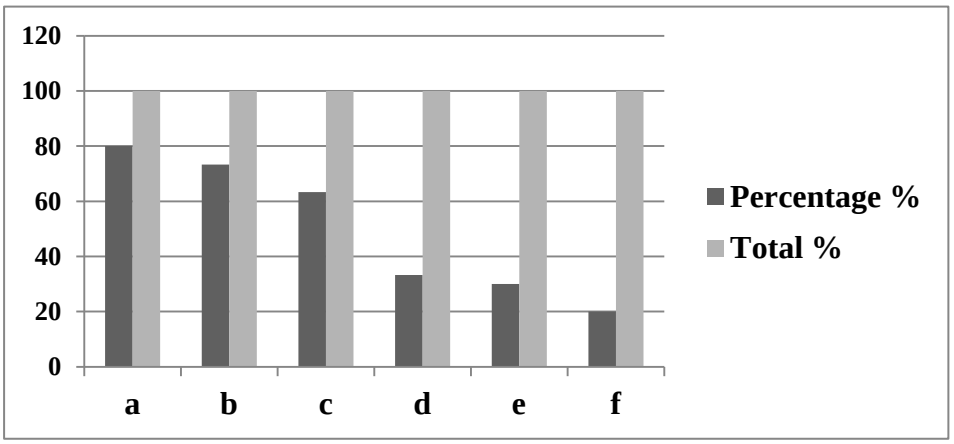


Figure 3.21. **Most frequently accessed mobile applications**

Figure 3.21 shows that social media, blogs, and other social networks are the most popular mobile applications accessed by students. Songs are the second activity, while mobile dictionaries are ranked at the third accessed mobile activities. Reading ebooks and educational apps are reported as less accessed by EFL students. Finally, 20% of respondents added other mobile activities such as games, movies, audiobooks, and researching for different topics.

Q6- What advantages do you think learning via mobile device offer?

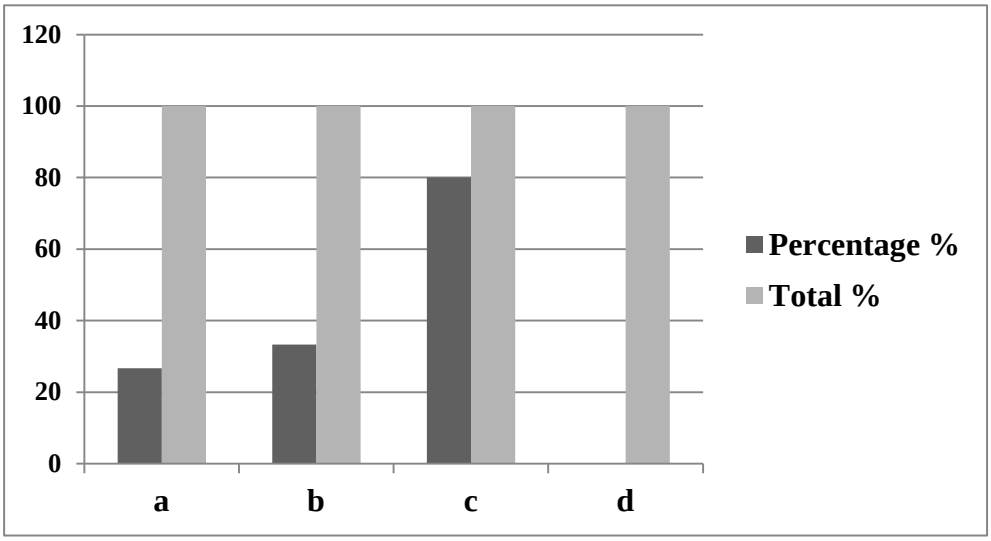


Figure 3.22. **Advantages of learning English with mobile devices**

As can be seen from the graph, with regard to the total number of the respondents, the majority placed the "anytime-anywhere" advantage as the highest one. Next, practical use and portability is rated as the second advantage, and the advantage of low costs of the as the last one. The respondents did not mention other advantages.

Q7- What are the challenges in learning via mobile devices?

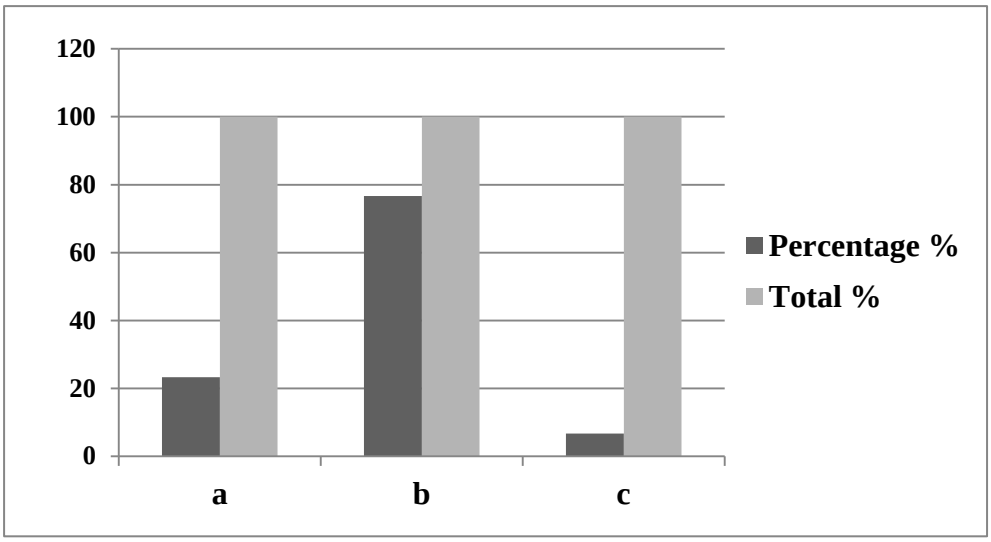


Figure 3.23. **Challenges in learning English with mobile devices**

Figure 3.23 reveals that main challenge stated by the majority of respondents is the technical challenge. Some others claimed that costs are another challenge. However, the least percentage stated that there are no challenges in learning with mobile devices.

Part Three: With Regard to Learning English

Q8- How often do you use your mobile device to learn English?

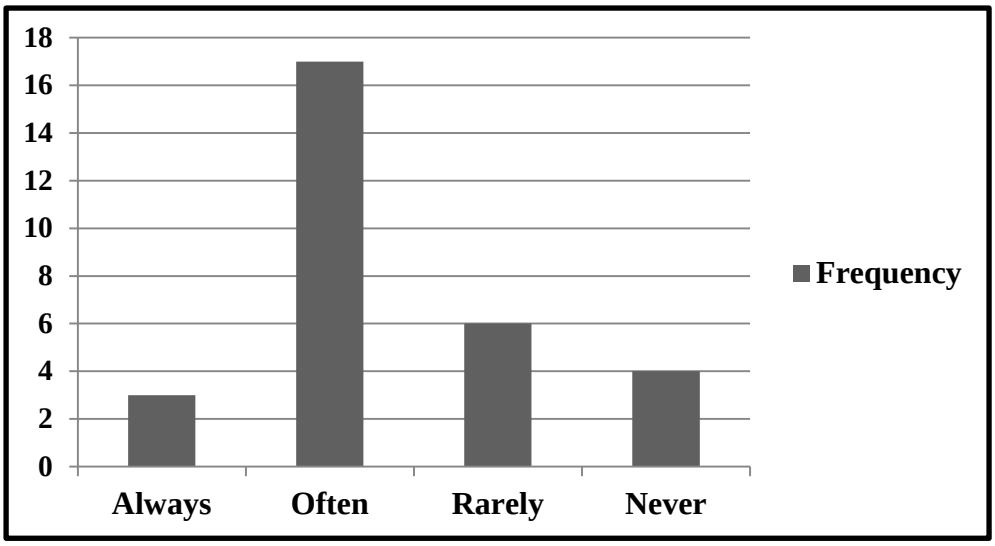


Figure 3.24. **Frequency of using Mobile-assisted Language Learning**

The graph indicates that the highest number of students often uses mobile devices for learning English. Others rarely do so, and four students never use the mobile devices to do so. Only three students always use their mobile devices to learn English.

Q9- If you do not use mobile devices as learning tools, it is because.

Cost was identified as a barrier for mobile learning. Reliability of information is another issue. One respondent answered, "It's for one simple reason; my battery runs low", other respondents claimed that it is because their mobiles lack some features.

Q10- When do you often use your mobile device to learn English?

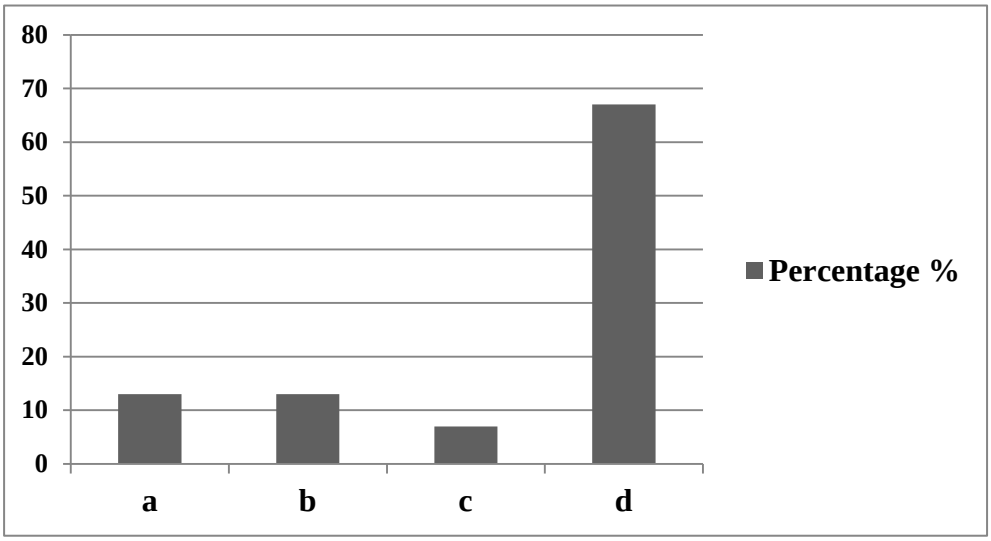


Figure 3.25. **Times of Mobile-assisted Language Learning**

The Figure 3.25 demonstrates that 67% of the respondents access to Mobile-assisted Language Learning activities whenever the opportunity arises. While the same percentage of respondents claimed that they use their mobile devices to learn English whether in their free time or while waiting and the least percentage before sleeping.

Q11- Where do you often use your mobile device to learn English?

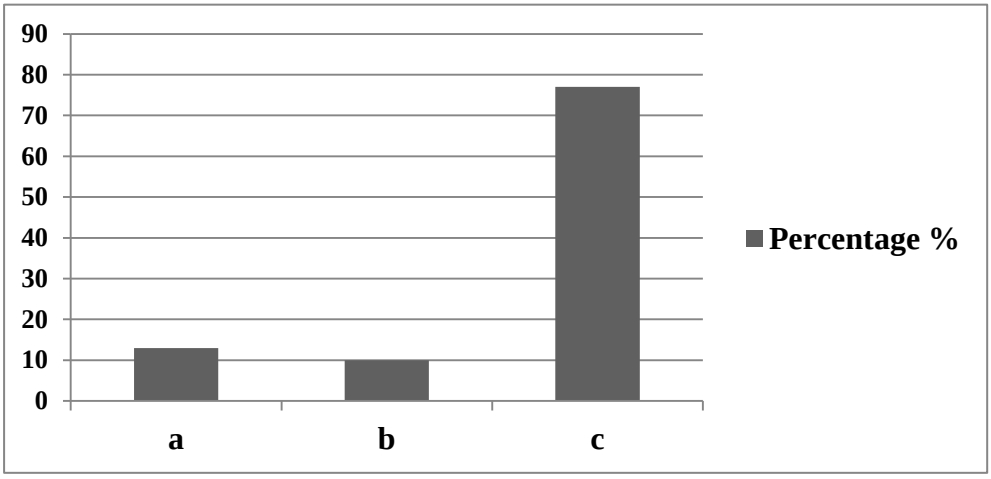


Figure 3.26. **Places of Mobile-assisted Language Learning**

The highest percentage of participants often learns English through their mobile devices wherever the opportunity arises. Only 13% of students do so inside the school, and 10% outside the classroom.

Q12- Which aspects of English Language you intend to improve when using mobile activities?

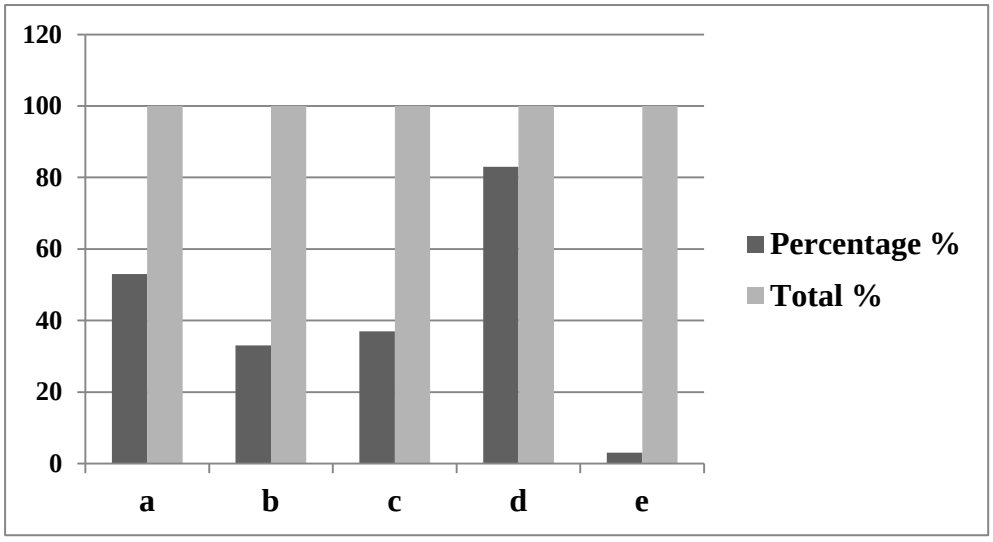


Figure 3. 27. **Language aspects improve through mobile devices**

Figure 3.27 reveals that the majority of participants intend to improve their vocabulary with the use mobile devices. Listening also is ranked as the second skill to be improved.

Grammar and speaking are much less interesting. One participant added the aspect of pronunciation.

Q13- Are you allowed to use your mobile device inside the classroom?

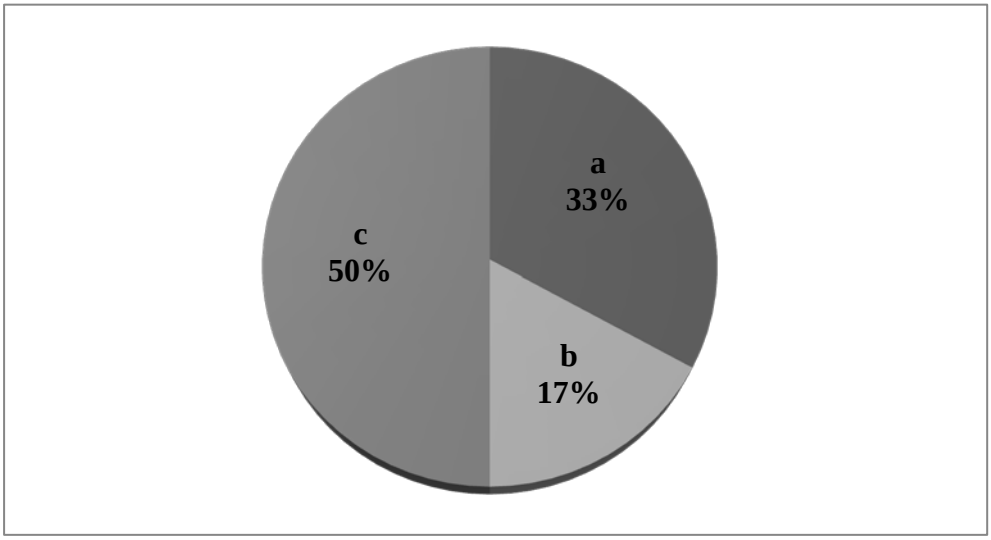


Figure 3. 28. **Allowance of mobile devices usage inside the classroom**

As is illustrated by the graph, the majority of participants claimed that the allowance of mobile devices usage inside the classroom depends on the teacher. 33% of teachers allow the use of the devices inside the classroom, and 17% do not.

Q14- Do you use your mobile device to acquire new vocabulary items?

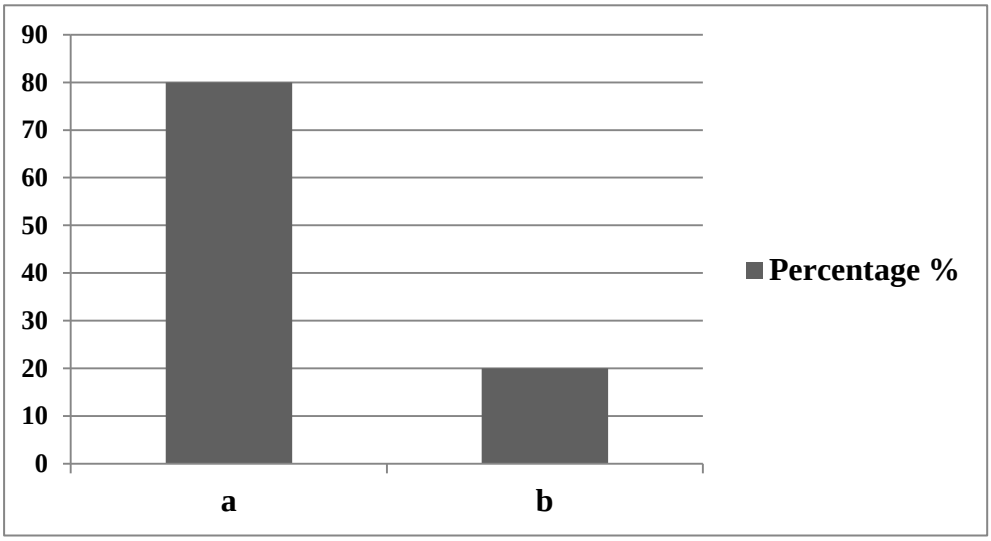


Figure 3.29. **The use of mobile devices to acquire vocabulary**

The chart shows that the highest majority of participants use their mobile devices to acquire vocabulary.

If yes, does it motivate you?

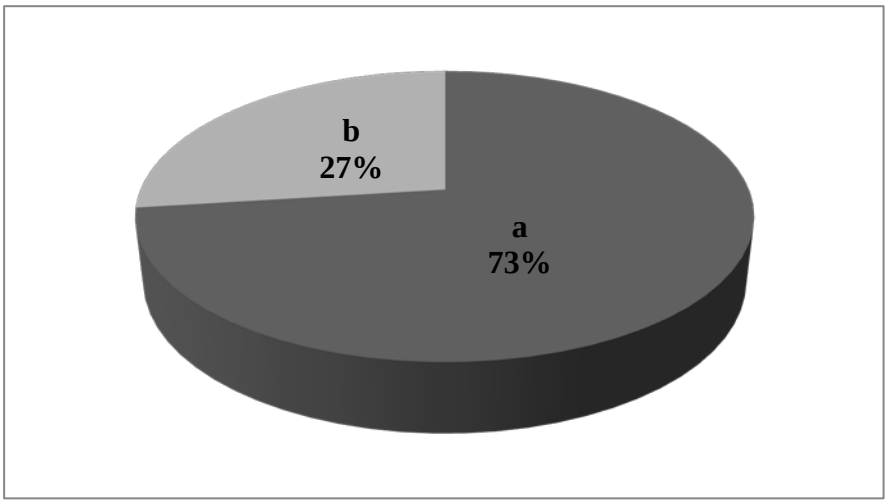


Figure 3.30. **Degree of motivation when using mobile devices to acquire vocabulary**

Figure 3.30 shows that the highest percentage of students is motivated when using their mobile devices to acquire vocabulary.

Q15- What kind of activities do you use to acquire new vocabulary items?

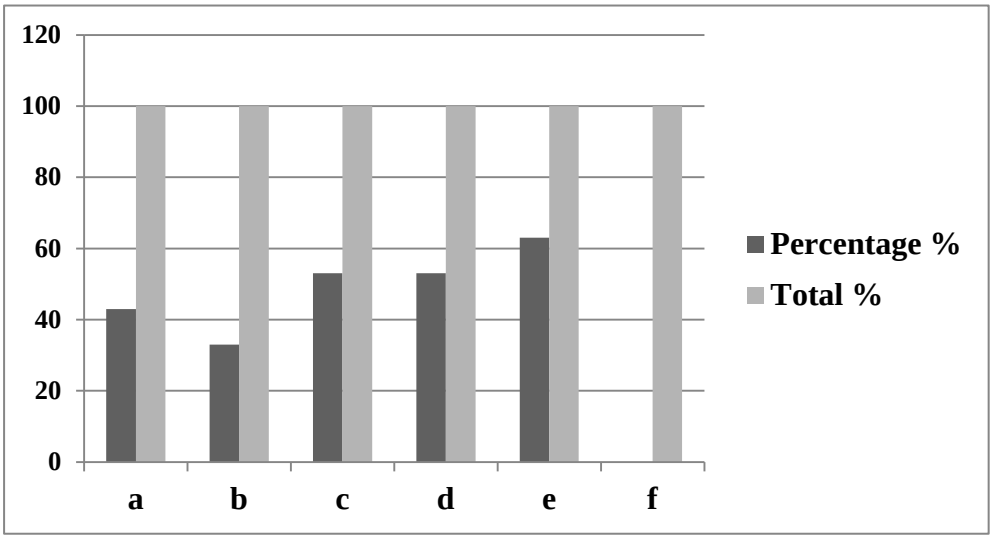


Figure 3. 31. **Activities for vocabulary acquisition**

As is illustrated by the graph, text messaging is the highly accessed activity by students to acquire vocabulary items. Other students focus on listening activities, mobile applications, and, reading ebooks, and playing games. The participants did not mention other activities.

Q16- Please, select the scale of agreement from below statements.

1- I believe mobile devices are effective for vocabulary acquisition.

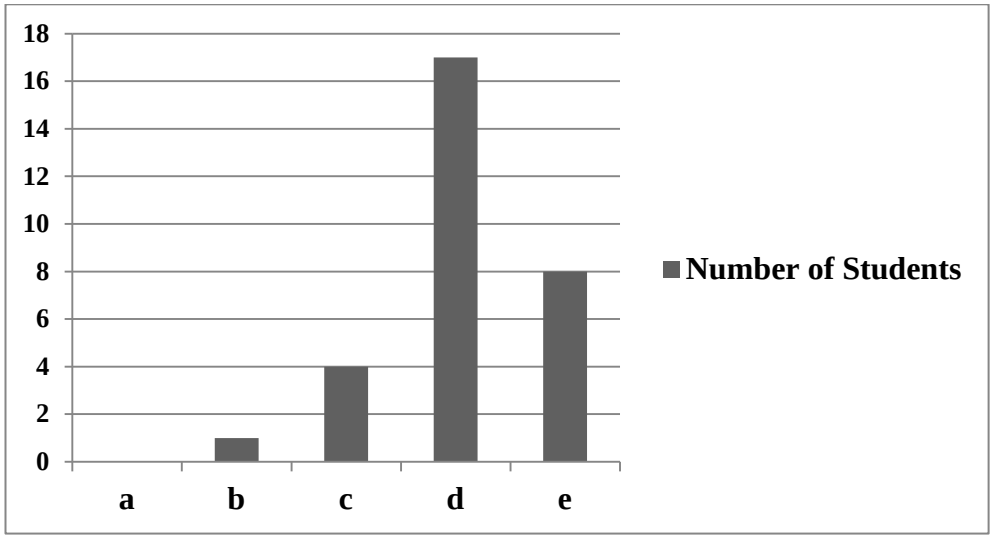


Figure 3.32. **Attitude towards the effectiveness of mobile devices for vocabulary acquisition**

As Figure 3.32 indicates, the highest number of participants agreed that mobile devices are effective for vocabulary acquisition, and eight (8) participants strongly agreed. Others were either neutral or disagree, with no one who strongly disagreed.

2- Checking my mobile dictionary helps me improve my spelling, grammatical points as well as my pronunciation.

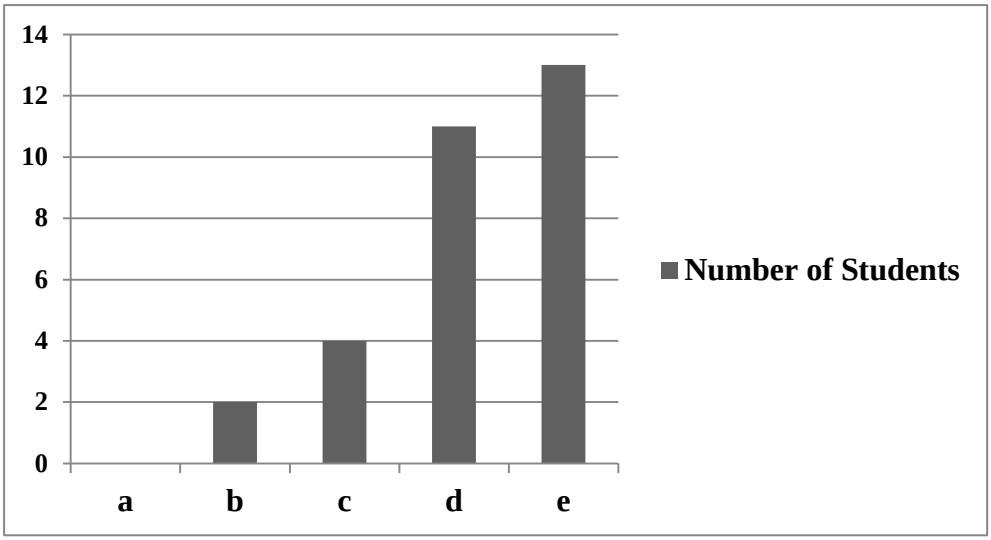


Figure 3.33. **Attitude towards the effectiveness of mobile dictionaries**

Thirteen (13) respondents strongly agreed that mobile dictionaries help in spelling, grammar, and pronunciation, and eleven others agree, too. With the rest of the respondents' attitude ranged from neutral to disagree.

3- Using my mobile device increases my vocabulary size.

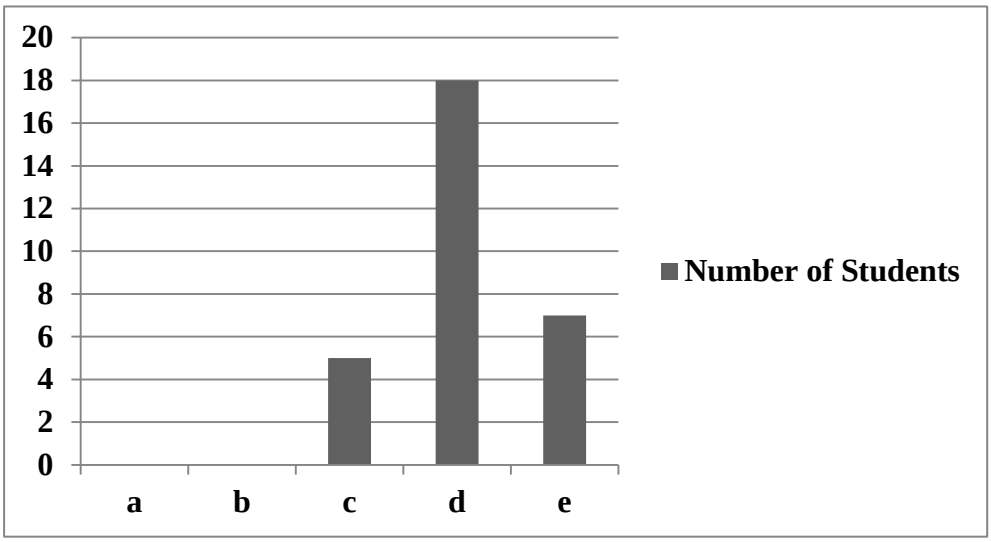


Figure 3.34. **Attitude towards the development of vocabulary size through mobile devices**

As the graph shows, no participant neither disagreed nor strongly disagreed that mobile devices increase their vocabulary size. The highest number of participants agreed that

mobile devices increase their vocabulary size, and others strongly agreed. The rest were neutral.

4- Mobile devices offer opportunities to acquire vocabulary that are not offered by traditional means.

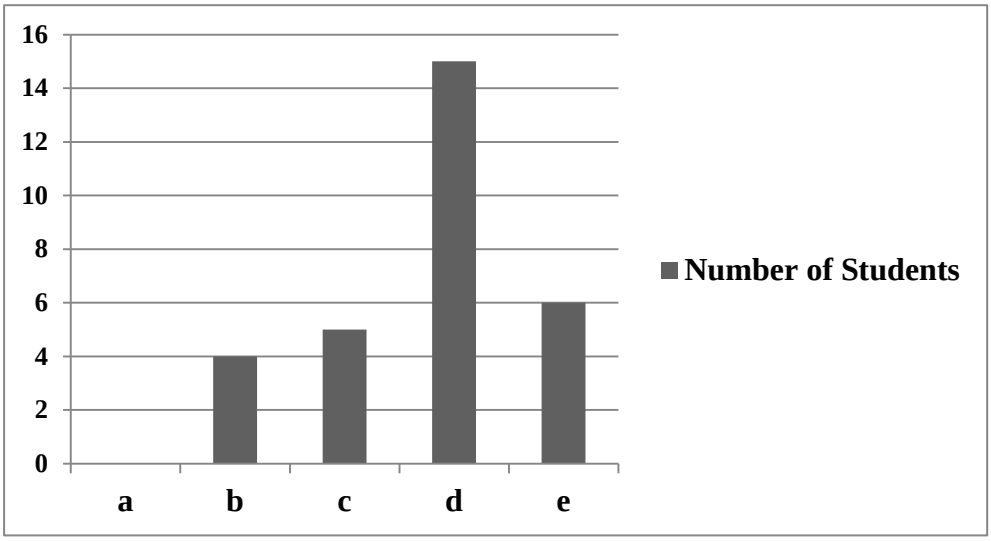


Figure 3.35. **Attitude towards the opportunities offered by mobile devices**

Figure 3.35 indicates that fifteen students agreed that mobile devices offer opportunities that are not offered by traditional means, while six others strongly agreed. Only five students were neutral and four disagreed.

Q17- Does learning vocabulary through your mobile device help you with your courses?

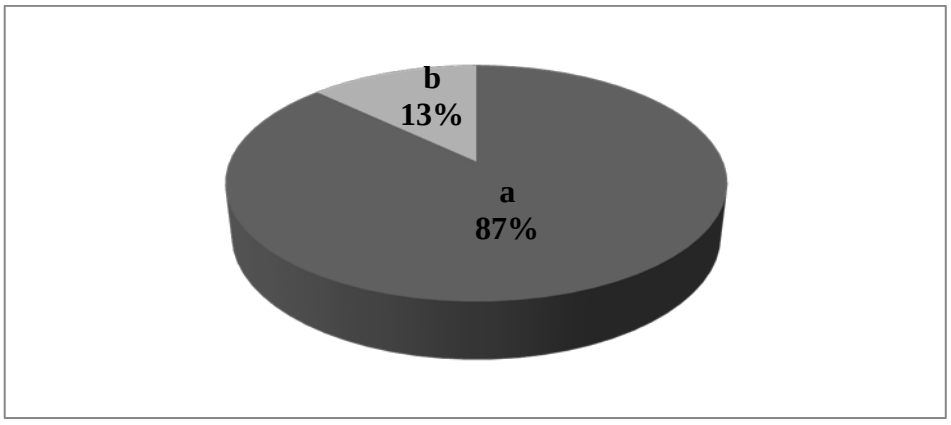


Figure 3.36. **Mobile devices assistance in the courses**

As can be seen from the figure, the highest majority of respondents claimed that learning through mobile devices help them in their course.

If yes, which courses?

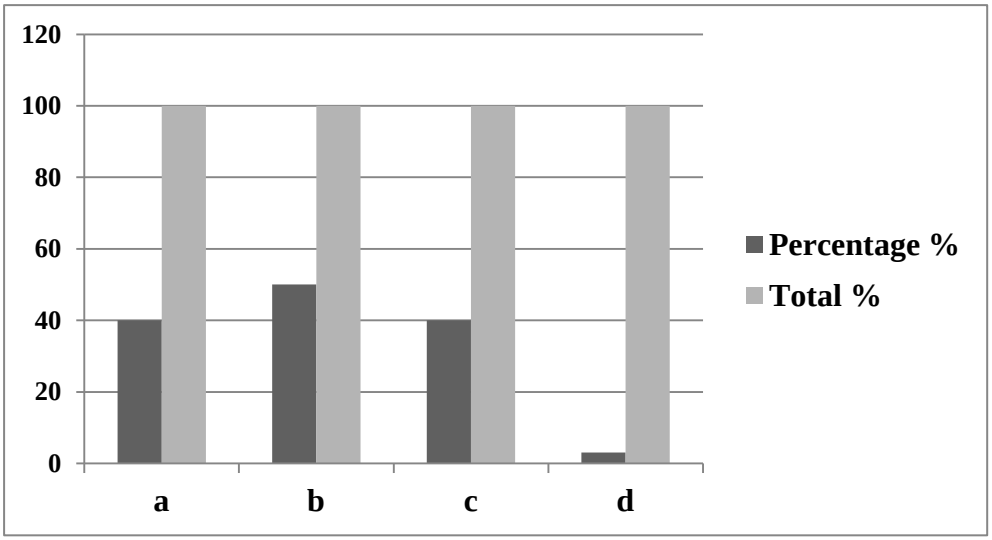


Figure 3.37. **Courses assisted through mobile devices**

Figure 3.34 shows that written expression is ranked at the top of the courses. Oral expression and ESP share the same place. Other student mentioned Grammar and Phonetics courses.

Q18- Do your teachers use their mobile devices as tools to teach vocabulary?

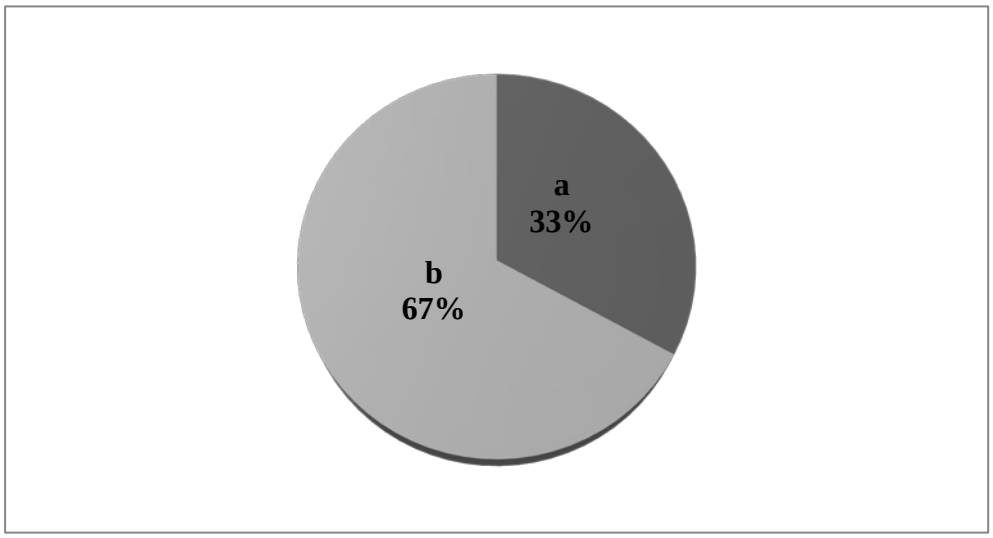


Figure 3.38. **Teachers' use of mobile devices in teaching vocabulary**

As is illustrated by the graph, most of the respondents claimed that their teachers do not use mobile devices to teach vocabulary.

If no, do you like to see teachers/instructors use mobile devices in courses to teach vocabulary?

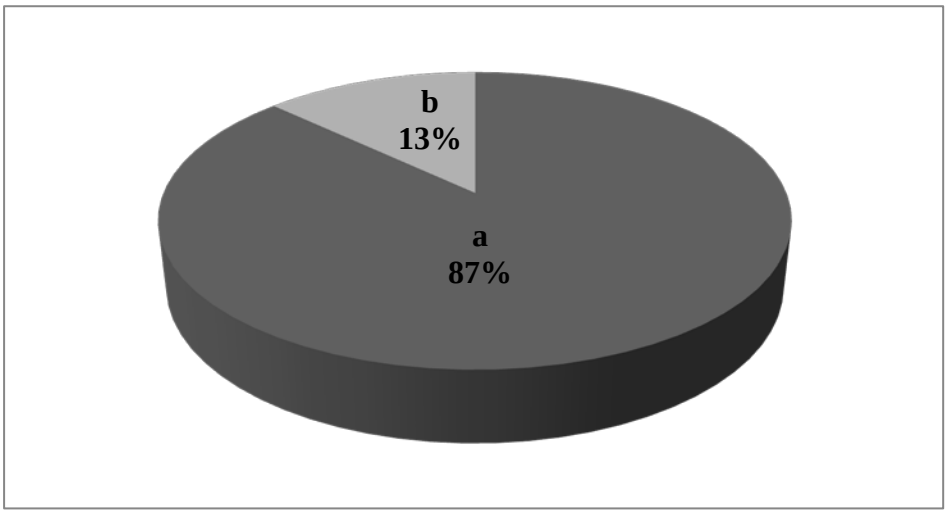


Figure 3.39. **Students' attitude towards the teachers' use of mobile devices**

The highest majority supported the use of mobile devices as vocabulary teaching tool. Having been asked to explain, the majority of respondents claimed that mobile technologies motivate them. It was also mentioned that teachers can exploit the anytime-anywhere advantage so as to be up-to-date. Other respondents said that mobile devices offer better understanding of vocabulary items. However, the 13% of respondents who did not support the teachers' use of mobile devices think that mobile devices can interrupt them.

Q19- How would you evaluate your level before and after learning vocabulary through your mobile device?

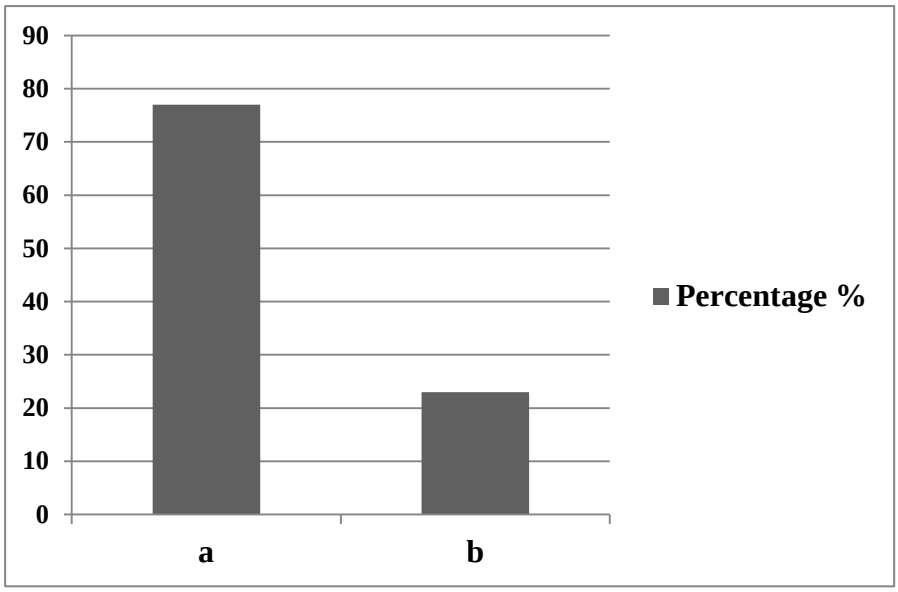


Figure 3.40. **Vocabulary level when learning with mobile devices**

The graph indicates that the highest majority of respondents evaluated their level of vocabulary knowledge before and after using mobile devices as improved.

Q20- If you do have any comment with regard to the study, please feel free to write.

Many comments were received, where most of them were towards the novelty of the topic. Most of the students' comments shared the same idea that teachers should allow and encourage the use of mobile devices as these devices are available and motivating.

3.2.4. Interpretation of the Students' Questionnaire Results

3.2.4.1.Part One: General Information

First of all, the chosen sample of the study reveals that the number of females is equal to the number of males. This adds nothing except the indication that both sexes show an interest in both studying English and using technology. In addition, the current level of the students allows the study to rely on them since more than half of the students claimed that their level in English is between good and average (Figure 3.13).

3.2.4.2.Part Two: With Regard to Mobile Devices Usage

This part was intended to collect data concerning the general use of mobile devices in the students' daily life. The data collected can be divided into three areas: mobile devices ownership, time spent and activities accessed through mobile devices, and finally evaluation of mobile devices usage.

The results revealed that students are familiar with the usage of mobile technologies; that is, ownership of mobile devices was prevalent among students. As shown in Figure 3.14, laptop computers and Smartphones are the most widespread devices. It is also worth noting that every student owns at least one mobile device, which may be due to the low cost of some mobile devices. Hence, handheld devices penetrate students' lives.

Moreover, Figure 3.16 demonstrated that most of students usually spend less than three hours per day using their mobile devices, which is a short amount of time with regard to the other students' amount of time spent (8 students spend 3 hours or more). One may relate this to the unattractiveness of the mobile applications and activities, the lack of advanced features within the student's device, and the technical disadvantages of the devices. So, to have an idea about the activities mostly frequented, students were asked to rank the mobile activities they often access to (Q5). Not surprisingly, Figure 3.17 indicated that students often use their mobile devices to access social networks. They also use the devices to entertain (games are a good example). Outside these uses, learning English is the least used activity. Students were asked to specify the activities. The results demonstrated in Figure 3.18 were not surprising; students reported accessing social media, blogs, video sharing, and other social activities as the most frequented activities. In addition to songs, mobile dictionaries and ebooks are other activities most often used by

students. This can be due to the fact that these applications couple between fun, learning, and communication.

Finally, when asked to evaluate the use of mobile devices, the majority of the students reported that the anytime-anywhere advantage is at the top of mobile affordances, followed by the portability of the device (Figure 3.19**)**. On the other hand, the technical challenges such as screen size, and battery storage were identified as the first major barrier to mobile learning (Figure 3.20). Other challenges such as internet connection were not mentioned; however, few years ago, it was regarded as a major problem. One can say that with the arrival of the 3G the issue of internet connection was almost solved.

3.2.4.3.Part Three: With Regard to Learning English

This part begins by asking about the frequency of using the mobile devices to learn English. As indicated in Figure 3.21, more than half of students (26) claimed that they used their mobile devices for learning purposes (whether always, often, or rarely). However, some students reported that they never used their mobile devices to learn English. Here, unreliability, as an educational barrier, and some technical disadvantages (as reported in Q6) were raised by the students who did not use their mobile devices for academic purposes. So, in addition to the results of Q5, it can be concluded that students learn English incidentally through their mobile devices.

In addition, in order to indentify "when" and "where" MALL takes place, students were required to answer Q10 and Q11. As far as time is concerned, results revealed that the majority of students used MALL activities whenever the opportunity arises; that is, in a spontaneous and unplanned way rather than as a regular and habitual pattern of activity. As for place, the highest majority used MALL in no specific location. The answers proved that the students' use of MALL activities was much more in an informal way, taking

advantage of the main advantage of mobile devices, as previously stated by the majority of students, the anytime-anywhere advantage.

Therefore, learning English through mobile devices can enhance the students' skills. Thus, students were asked to identify the language aspects that they intend to improve when using their mobile activities (Q12). Not surprisingly, more than half of the students reported that they used their mobile devices to enhance mostly their vocabulary and listening skills. This explicates their choices in the activities provided in Q5, in which they ranked songs and mobile dictionaries among the most frequently used applications.

To conclude this part, it was significant to know if the students were allowed to use their mobile devices inside the classroom. Figure 3.25 demonstrates clearly that half of the students reported that they are allowed to do so. Hence, teachers become more and more conscious of the importance of educational technologies.

3.2.4.4.Part Four: With Regard to Vocabulary Acquisition

This last part was designed to explore the effectiveness of MALL activities with regard to vocabulary acquisition. The students were first asked to indentify if they use their mobile devices as learning tools to acquire vocabulary. As can be seen from Figure 3.26, more than half of the students answered positively. This can be proved by the motivating aspect mobile activities have, as reported by the majority of students (Figure 3.27). So, it is important to have an idea about the different vocabulary mobile activities used by the students. In Q15, most of the students claimed that they acquired new vocabulary items mainly through text messaging (sending SMSs, Twitting). They also depend on listening activities and playing games as materials. These findings support the answers in Q5 as it indicated that the most frequently accessed mobile activities are social networking and songs.

To clarify more the students' attitudes towards the effectiveness of MALL in acquiring vocabulary, four Likert Scale items were included within Q16. In fact, the overall responses to vocabulary acquisition assisted by mobile devices were significantly positive. First of all, as indicated in Figure 3.29, more than half of the students agreed that mobile devices are effective for vocabulary acquisition. In addition, the highest number of students claimed that mobile dictionaries help them improving their spelling, grammar, as well as pronunciation, proving the previous statement. Indeed, mobile dictionaries provide additional functions that are not found in the hard copy dictionaries. The third statement as shown in Figure 3.31 has gained no disagreement; the students reported neutrality, agreement, or strong agreement; however, the majority (18) agreed that using mobile devices increased their vocabulary size. This can be due to the wide range of mobile activities that enable the student to acquire vocabulary incidentally. The last statement was issued with regard to the opportunities provided by mobile devices while acquiring vocabulary. Half of the students showed agreement, while others showed disagreement and neutrality (Figure 3.32). Therefore, this proves that mobile devices are complementary learning tools.

As vocabulary is related to other language skills, students were asked if MALL vocabulary activities help them in their courses. Figure 3.33 was a clear demonstration of the students' positive reports; 87% of the students claimed that acquiring vocabulary through their devices assists them in the different courses. When asked to specify the courses, Written Expression course was at the first place, followed by Oral Expression and ESP, while other students mentioned courses such as Grammar and Phonetics (Figure 3.34). This means that MALL vocabulary activities affect student's language skills.

The teacher's role in enhancing student's vocabulary is significant. In Q18, students were asked to report if their teachers implement the mobile devices within the courses to teach vocabulary. More than half of them (67%) reported positively. In case the teachers do not use their devices, students were asked if they would like their teachers to implement the devices as teaching tools. 87% of students said yes. However, the least majority who was against, explained that mobile devices may disturb them. This leads to conclude that teachers showed some tolerance towards this new educational technology.

As a last question related to evaluating vocabulary acquisition through handheld devices, Q19 asked students to evaluate their level before and after using the devices as learning tools. More than half of students reported that their level has improved after assisting their vocabulary knowledge through mobile devices. So, the mobile vocabulary activities have contributed to positive feedback.

The last question (Q20) was an open-ended question which was issued with regard to gathering the students' additional comments concerning the study. The majority of students were advocates for Mobile-assisted Language Learning; positive feedbacks were received. Some students said that teachers should use and allow the use of mobile technology inside the classroom due to the unlimited advantages they provide, such as availability, and portability. Other students claimed that the devices motivate them to learn. Thus, teachers should exploit the advantages of these handheld devices in teaching and learning process.

3.3. The Teachers' Interview

The teachers' interview aims to collect different teachers' attitudes towards MALL. In addition, the interview seeks to explore how EFL teachers adapt themselves with the new educational wave.

3.3.1. The Sample

The interview was administered to three (03) teachers who teach modules that have a relationship with vocabulary acquisition such as Oral Expression, ESP, Grammar, and Written Expression. The selection of such sample was based on the consideration that the teachers of such modules are the best representatives of the extent to which mobile technologies are implemented within the courses in order to teach and help students acquire vocabulary items.

3.3.2. Description of the Interview

A structured teachers' interview was conducted as another data collection tool. The teachers' interview, relating to the last research question of this study, is intended to discover if EFL teachers at Biskra University use their mobile devices as a support and teaching tool to improve their teaching style. Moreover, the interview aims at exploring the teachers' perceptions about the usefulness of the mobile devices in acquiring vocabulary.

The teachers' interview consists of five (05) open-ended items. First, item one (Q1) and item two (Q2) investigated the extent to which the teachers use and allow the use of mobile technologies inside the classroom. Then, item three (Q3) and item four (Q4) aimed at reporting the activities the teachers use to teach the different EFL skills, especially vocabulary acquisition. Finally, the last item (Q5) was devoted to teachers' perceptions towards the importance of Mobile-assisted Language Learning in teaching and learning EFL, namely in teaching and learning vocabulary.

On the other hand, it was necessary to preserve anonymity, therefore, the use of "A", "B", and "C", rather than pseudonyms, in the reporting and discussion below.

3.3.3. Analysis and Interpretation of the Results

Item 1: Do you use your mobile device as a tool to improve your teaching style? If yes, how you do so?

The question aims at exploring the extent to which EFL teachers are aware of the use of their mobile devices in the teaching process, and the kind of activities they use.

Interviewee A: "Yes, I do, but just for checking the meaning of the words".

Interviewee B: "Yes, most of the time, by being up-to-date to data, applications, etc."

Interviewee C: "Yes, I do; I need it to check for the meaning, spelling, pronunciation of a given language item. I use it for internet application, too".

As can be seen, the three interviewees reported similar answers. The findings revealed that teachers are familiar with mobile technologies; the three teachers use their mobile devices as tools to improve their teaching styles. Hence, one can conclude that mobile technologies penetrate not only students' learning process, but also teachers' teaching style.

Item 2: To what extent do you allow your students to use their mobile devices inside the classroom?

The question is asked to know whether EFL teachers tolerate the use of mobile devices inside the classroom, and within their courses.

Interviewee A: "I usually permit the use of mobiles inside the classroom in order to check their e-dictionaries, check irregular verbs lists, etc".

Interviewee B: "In different activities, especially in ESP".

Interviewee C: "To a great extent; that is, whenever they need it they are tolerated to use it even without asking me".

The three interviewees claimed that they "usually", as interviewee A stated, permit their students to use their mobile devices inside the classroom for academic purposes. It can be concluded that the three teachers rely on the students' devices as complementary learning tools. In other words, the teachers support the use of mobile technology within the formal setting.

Item 3: How do you consider the use of mobile devices as tools to teach the different language skills, namely vocabulary acquisition?

It is significant to measure EFL teachers' attitudes towards the use of mobile devices as teaching tools to teach the language skills.

Interviewee A: "It is a very useful device; the students even download e-books to read. E-dictionaries, vocabulary applications, etc. are used in producing language in written or oral manner".

Interviewee B: "Smartphones are very important technological tools nowadays for enhancing and motivating EFL students. The four skills may be developed when using those devices positively".

Interviewee C: "It is very beneficial because it offers students opportunities to check for the appropriateness of a given item in terms of meaning, formality, and appropriateness in a given context".

The three teachers agreed that mobile devices are beneficial educational technology tools that offer the students a wide range of opportunities to develop the four skills. However, one can remark that interviewee B used the term "smartphones" to refer to mobile devices, which is a general misconception spread among many authors.

Item 4: Are there any specific mobile activities you use within your course?

The teachers are asked to identify if there are any MALL activities they usually use within their courses.

Interviewee A: "Checking the meaning of words".

Interviewee B: "Word searching, definitions, etc."

Interviewee C: "No".

As reported, interviewee A and interviewee B implement the use of mobile devices within their courses; however, the implementation is still restricted to an unlimited number of mobile activities such as "checking meaning" and "definitions". Whereas interviewee C does not implement the use of mobile activities within her/his courses. In both cases, this may be due to the fact that teachers are not aware of the unlimited activities that can be produced and delivered through the various mobile devices.

Item 5: Do you think that Mobile-assisted Language Learning is important to teach English as a Foreign Language in general and vocabulary in particular in the future?

In addition to measuring teachers' attitudes towards the use of mobile devices as teaching tools, this question aims to know how EFL teachers consider the importance of MALL as a language learning approach.

Interviewee A: "Yes, it is very important. The majority of the students use it instead of the hard copy".

Interviewee B: "Using this device is very beneficial in learning languages all over the world, but teachers and students have to know the exact use that can help them to develop the quality of the teaching/learning process in EFL classes".

Interviewee C: "Personally, I haven't used it in teaching, but I encourage its use in learning by asking my students to employ it to acquire new vocabulary. Mobiles are used very often by students; therefore, they can use them to develop their English language by listening to songs, conversations, etc."

All the interviewees share the same idea; mobile technology is very important in teaching and learning English as a Foreign Language. Interviewees A and B reported that mobile devices are already available and motivate students, which are two advantages to exploit. On the other hand, interviewee C shed light on a significant point in using mobile

technologies; that is, the importance to "know the exact use" of the devices so as to guide both teachers and students to exploit this new kind of educational technology.

3.4. Discussion of Results

The study has delivered interesting results into the effectiveness of MALL, as a language learning approach, in enhancing EFL students' vocabulary acquisition at Biskra University. Indeed, the study revealed that EFL students at Biskra University use to a great extent their mobile devices as learning tools to enhance their English language skills, especially their vocabulary acquisition. The study also revealed interesting insights into the use of mobile technology from the teachers' side. So, in this part of discussion, the findings will be carefully discussed and compared to the findings found in the literature.

First, the findings revealed that mobile devices ownership is widespread among EFL students, and every student has at least one mobile device. This proves the ubiquity and availability of mobile devices as two main features to exploit. These findings are shared among various researches. For example, Sharples (2005) reported findings that indicate huge disparities in access to mobile technologies. It was also found that the time spent on mobile devices ranges from one hour to three hours per day, and even more than three hours. Comparing to results found in the study conducted by Alhabahba et al. (2014), who found that the majority of their respondents spent over nine hours a day using their smartphones, EFL students at Biskra University showed less addiction to their mobile devices. These results can be due to the different MALL challenges raised by the majority of students. However, results in this area are continuously changing as mobile technology continues to evolve.

Along the same vein, students evaluated the mobile devices in terms of both affordances and challenges. The anytime-anywhere advantage and portability were

identified as the main features of mobile devices. However, the technical issues were at the top of the disadvantages of handheld devices. These findings are consistent with findings found in literature. For example, on one hand, Kamalian and Sayadian (2014) claimed that, "the significance of mobile learning lies in the fact that learning is delivered to a person, at a specific time and in specific place while using electronic devices" (p. 101). On the other hand, Kukulska-Hulme (2006) reported that, "small screen-size, short battery life and limited memory were reported as significant problems" (p. 649). Reliability issues and educational barriers were other challenges that hinder MALL; that is, reduce the time spent on mobile devices.

Second, the results indicated that EFL students at Biskra University often use their mobile devices for academic purposes; that is, to learn English. It is worth noting to add that, not surprisingly, students spend most of their time on social networks such as social media and entertainment activities such as games and songs; that is, they do not prioritize learning English as an explicit mobile activity. These findings are similar to those of Kukulska-Hulme (2006) who found that 96% of her participants used their mobile phones for social interaction, 19% for entertainment, and 17% for their own learning. One can conclude that EFL students learn English through their mobile devices in a spontaneous way more than in a regular manner; that is, they do exploit the anytime-anywhere advantage to profit from their fragmented time. These finding broadly match three main MALL approaches; (1) informal and lifelong learning; (2) communicative approach; and (3) constructivism. To elucidate, informal and lifelong learning and communicative approach appear through the use of social networks (as the majority of students do), while constructive learning appears through the handheld games. These findings are consistent with the classification of MALL approaches reviewed by Keskin and Metcalf (2011). One

may add that the reason that students use MALL activities informally is that "learners often find their informal learning activities more motivating than learning in formal settings such as schools because they have the freedom to define tasks and relate activities to their own goals and control over their goals" (Sharples, 2006, p. 15). Thus, EFL students favor MALL activities because they satisfy their needs.

Third, findings in this study revealed that listening and vocabulary is at the top of the language components the students intend to improve through MALL activities. The same results were found in the study of Khabiri and Khatibi (2013) which was conducted on EFL Iranian learners. In addition, the study showed that EFL students depend mainly on text messaging such as SMSs, social media messaging, or other messaging means to enhance their vocabulary knowledge. Games and listening activities are also MALL activities that the students mainly used to develop their vocabulary acquisition. These results are consistent with researches conducted so far with regard to MALL and vocabulary acquisition. For instance, Khabiri and Khatibi (2013) found text messages are used by EFL Iranian learners to deliver items at spaced intervals which increase the learner's retention, or to report their daily activities. The former is a good example of behaviorist approach, while the latter is a good demonstration of situated learning. Researches on game-based learning revealed that this kind of MALL activity helps students acquire new vocabulary items in a motivating way. Along this vein, Beatty (2013) reported that mobile games are an attractive medium to deliver learning activities that motivate learners.

Giving the significant impact of motivation on vocabulary acquisition, findings revealed that EFL students were motivated when using MALL activities to acquire vocabulary. Many researchers have found that acquiring vocabulary through MALL activities

motivates students. Kamalian and Sayadian (2014) found that students were motivated to learn vocabulary through their mobile phones in form of Short Text Messaging (SMS). Mobile dictionaries are another MALL activity that EFL students showed positive attitude towards its effectiveness in helping them improving their spelling, grammatical points, and pronunciation. In this line, Godwin-Jones (2011) reported that text messaging and dual-language dictionaries are very useful.

Fourthly, MALL was perceived as an effective language learning approach that enhances EFL students' vocabulary acquisition at Biskra University. Results revealed the positive attitude of the students towards the effectiveness of mobile devices as vocabulary acquisition tools. From their own MALL experiences, EFL students agreed that MALL vocabulary activities increased and improved their vocabulary size. Findings related to the effectiveness of MALL activities in enhancing students' vocabulary acquisition is consistent with many previous studies such as Amouzegar and Khodashenas' study (2013) which noted that MALL, namely SMS has a positive effect on learning of vocabularies, Accordingly, results showed that MALL offers vocabulary learning opportunities that are not offered by traditional means. The findings are consistent with many previous studies such as Akdemir and Başoğlu' s study (2010) which compared undergraduate students' vocabulary through using mobile phones and traditional learning technique (flashcards). The study held that using mobile phones as a vocabulary learning tool is more effective than one of traditional vocabulary learning tools. Hence, mobile devices are effective vocabulary learning tools due to the unlimited opportunities they offer. In fact, these results lead to a conclusion that EFL students acquire vocabulary implicitly more than explicitly.

Finally, it was found that EFL teachers at Biskra University were aware of the mobile technology use and they perceived its importance as essential in enhancing the students' skills, especially their vocabulary acquisition. On one hand, results revealed that EFL teachers allowed and encouraged to a great extent their students to use their mobile devices inside the classroom for educational purposes, namely for assisting their vocabulary knowledge. This contrasts what Kim, Rueckert, Kim, and Seo (2013) found; in that teachers and students resist implementing new technologies in teaching and learning process. Results highlighted word searching, mobile dictionaries, and mobile apps as the main MALL activities teachers use whether for their own teaching or for assisting their learners' activities. Therefore, the study showed that MALL vocabulary activities, especially with teachers' encouragement and guidance, helped the students in their courses, mainly in Oral Expression, Written Expression, and ESP. On the other hand; however, one can conclude that MALL activities adopted by teachers are still restricted and non-innovative; that is, teachers exploit some MALL options and neglect others. This can be because teachers are less informed about the unlimited functions and opportunities offered by MALL. This is consistent with what Kukulska-Hulme (2013) found; in that teachers are rarely aware of the different mobile devices functions that can be exploited in teaching and learning process. Although, this does not mean that teachers are completely unaware of the different MALL affordances because teachers may know them but do not use them because of different reasons. To conclude, results proved the importance of MALL in the teaching and learning process. Teachers also agreed that MALL is effective in developing the language skills, especially students' vocabulary acquisition due to the opportunities.

To conclude the discussion, finding of this study were consistent with previous research in MALL, even though, there were some points of divergence since the study findings are

considered within the realm of the selected sample in a given time and period, in addition to the general methods adopted. In brief, results indicated the widespread ownership of mobile devices among both teachers and EFL students. In addition, MALL was found to be effective in enhancing EFL students' language skills, especially their vocabulary acquisition. The study delivered that MALL vocabulary activities penetrate both teachers' and learners' own teaching and learning process. This confirms the hypotheses and provides answers to the research questions stated earlier in the general introduction.

Conclusion

This chapter presents the analysis of the data gathered from different stages of the research with regard to the theoretical and practical aspects and the review of literature presented in chapter one and two. The collected data was by means of students' questionnaire and teachers' interview. First, the results of student's questionnaire were carefully analysed and represented both statistically and descriptively whether in tables, charts and figures in order to show how statistics compare with one another. Then, questionnaire's data was interpreted. Second, the results collected from the teacher's interview were descriptively analysed and interpreted so as to provide a general idea about the data. Third, the chapter ends with an in-depth discussion of the study findings, taking into consideration the study limitations, in order to test the research hypotheses and answer the research questions. The results were compared with what was found in literature. Finally, the chapter ends with the possible limitations that may have affected the study findings. In addition, the study revealed some pedagogical implementations in order to invest well in this new educational technology. To conclude, the chapter provides answer to the research questions of this study, as well as confirms the research hypotheses; in that

both EFL teachers and students use their mobile devices as teaching and learning tools, and they perceive MALL activities as effective in enhancing vocabulary knowledge.

Pedagogical Implementations

Mobile technologies, including laptop computers, Smartphones, Game consoles, MP3/MP4 players, and so many other handheld devices, become an essential part of both students' and teachers' routines. Hence, it is pivotal to raise awareness on the part of all EFL practitioners so as to know how well invest in these digital devices. For that, the current study suggests the following remarks:

1. Mobile devices can be the best solution for implementing ICT in classrooms; that is, they provide spontaneous usage from both teachers and learners.
2. Teachers and learners should be encouraged to use and implement the different mobile devices as teaching and learning tools through different MALL activities.
3. Teachers may benefit from the widespread ownership of handheld devices among their students by considering using MALL activities that fit the students' devices.
4. As long as vocabulary is concerned, teachers can exploit the unlimited number of MALL vocabulary activities (games, puzzles, word guessing games) to implement them within courses and encourage their students to use them.
5. Because the learning process can hardly be accomplished without a teacher's direction or guidance, teachers should direct their students on choosing the appropriate learning materials.
6. As EFL learners' use of MALL activities is usually outside the classroom (informal), in an implicit manner, instructors may benefit students learning process through directing them to spend more time learning or working on activities that include mobile devices' use.
7. Instructors should encourage and assist learner' autonomy this enables learners to combine formal and informal learning.

8. As both traditional vocabulary learning and mobile vocabulary learning have their innate advantages and disadvantages, a blended approach is recommended for learners to meet their particular needs
9. As far as MALL activities are concerned, designers should pay enough attention to design activities that build learners' language skills, namely their vocabulary, so as to satisfy the different learners' needs.
10. Thus, it would be appropriate to create research laboratories that couple between computer specialists and applied linguists in order to create programs and mobile applications which are compatible with language curriculum.
11. Finally, the researcher suggests adding a module which would be devoted to train learners on using and implementing mobile devices in the teaching and learning process. The program of this module can be planned and prepared by the suggested research laboratory and the content would be constantly updated as technology always is.

General Conclusion

The current thesis has explored the effectiveness of MALL, as a new language learning approach, in enhancing EFL students' vocabulary acquisition. Accordingly, the thesis aimed to investigate whether both EFL teachers and students use MALL activities to support their teaching and learning process in general, and vocabulary acquisition aspect in particular. For that, it was the mission of this project to conduct an in-depth investigation in order to test the hypotheses and answer the research questions stated earlier in the general introduction.

First, it was necessary to review the related literature which was presented in the first two chapters. The first chapter provided details about MALL as an emerging language learning approach that consists of using the mobile devices as educational tools. The second chapter dealt with vocabulary acquisition. It highlighted the basic concepts related to acquiring new vocabulary items, then it foregrounded the relationship between vocabulary acquisition and learning strategies before reporting the major studies that investigated the use of mobile devices to acquire vocabulary, with illustrating examples.

The second step was research methodology. In this thesis, the researcher opted for a mixed approach; which consists of administering questionnaires to thirty EFL students and interviews to three EFL teachers. The data collected from the two research tools were analysed, interpreted, and discussed with regard to the previous research findings found in the literature. Therefore, the study findings revealed interesting insights into the use of MALL activities from both EFL teachers and learners.

The findings revealed the positive opinions of both EFL teachers and learners about the usefulness of mobile devices as tools to enhance vocabulary knowledge. The usefulness of

MALL vocabulary activities was indicated as having a positive impact on students' achievement in English as it assists the students in different courses. It was also found that EFL teachers were aware of the importance of mobile devices as new educational tools to teach the different language skills.

Hence, the findings in this study suggested the following conclusive remarks:

1. Using mobile devices among EFL students at Biskra University to learn English revealed hybridity between formal and informal learning. However, the tendency was more towards informal learning as a means to exploit the anytime-anywhere advantage offered by mobile devices.
2. Text messaging and games are two major facets of the informality of learning and acquiring vocabulary used by EFL students.
3. The tendency towards informality of using mobile devices to learn vocabulary was due to the fact that the handheld devices motivated EFL students.
4. EFL students' attitudes towards acquiring vocabulary through their mobile devices were highly positive.
5. EFL teachers' attitudes towards the use, allowance, and implementation of mobile devices as educational tools were highly positive, which proved their awareness of the importance of being up-to-date to the newest educational technologies.

As a final point, the present dissertation has shed light on mobile devices as an emerging educational technology with unlimited affordances. This new wave of educational tool has been proved to be an aid to assist EFL students' language skills, especially their vocabulary acquisition. In addition, mobile devices can serve as motivating teaching tools for EFL teachers.

Bibliography

Aichaoui, T. (2005). *A proposal for improving students' proficiency in English vocabulary. Case study: English first year students of Biskra University* (Unpublished master's thesis). Biskra University.

AL-Qudaimi, K. (2013, May, 13). Mobile-assisted language learning: a literature review. Retrieved January, 12, 2015, from https://www.academia.edu/6369026/Mobile-Assisted_Language_Learning_A_Literature_Review.pdf

Alemi, M., Sarab, M. R. A., & Lari, Z. (2012, September, 26). Successful learning of academic word list via MALL: Mobile Assisted Language Learning. *International Education Studies, 5*(6), 99–109. Retrievable from http://www.ccsenet.org

Alemi, M., & Tayebi, A. (2011). The influence of incidental and intentional vocabulary acquisition and vocabulary strategy use on learning l2 vocabularies. *Journal of Language Teaching and Research, 2*(1), 81-98. ACADEMY PUBLISHER Manufactured in Finland.

Alhabahba, M. M., Ali Mahfoodh, O. H., Pandian, A., Mohammad, Y. M., Ahmed, E. W., & Al Bazar, H. (2014, September, 3). Check This Word Out! Exploring the Factors That Affect Students' Vocabulary Learning Using Smartphones via Partial Least Squares. *Hindawi Publishing Corporation Education Research International*, 1-10. Retrieved from http://dx.doi.org/10.1155/2014/672031

Baleghizadel, S., & Oladrostam, E. (2010). The effect of mobile assisted language learning (mall) on grammatical accuracy of efl students. *MEXTESOL Journal, 34*(2), 1-10.

Beatty, K. (2013). *Beyond the classroom: Mobile learning the wider world*. Monterey, CA: The International Research Foundation for English Language Education. Retrieved from http://www.tirfonline.org/english-in-the-workforce/mobile-assisted-language-learning/

Chinnery, G. M. (2006). Emerging technologies going to the mall: mobile assisted language learning. *Language Learning & Technology, 10*(1), 9-16. Retrieved February, 21, 2015 from http://llt.msu.edu/vol10num1/emerging/

Derakhshan, A., & Kaivanpanah, S. (2011). The impact of text-messaging on EFL freshmen's vocabulary learning. *EUROCALL*, 39-47. Retrievable from http://eurocall.webs.upv.es/index.php?m=menu_00&n=news_19#derakhshan

Derakhshan, A., & Khodabakhshzadeh, H. (2011, September). Why call why not mall: An in-depth review of text-message vocabulary learning. *Theory and Practice in Language Studies*, *1*(9), 1150-1159. ACADEMY PUBLISHER Manufactured in Finland.pdf

Dörnyei, Z. (2003). *Questionnaires in second language research: Construction, administration, and processing*. Mahwah, NJ: Lawrence Erlbaum Associates.

Fisiak, J. (1990). (Ed.). Words you know: how they affect the words you learn. *Linguistic and Literary Studies in Eastern Europe*. Vol.30. John Benjamins Publishing. Philadelphia: Amsterdam. 574-593.pdf

Folse, K. S. (2004). An introduction to second language vocabulary. In *Vocabulary myths: Applying second language research to classroom teaching*. Ann Arbor: University of Michigan Press.

Form, Meaning, and Use. (n.d.). Retrieved April 21, 2015, from http://www.betterlanguageteaching.com/esl-articles/89-form-meaning-use

Godwin-Jones, R. (2011, June). Emerging technologies mobile apps for language learning. *Language Learning & Technology*, *15*(2), 2-11. Retrieved February, 21, 2015 from http://llt.msu.edu/issues/june2011/emerging.pdf

Grönlund, Å., & Viberg, O. (2012). Mobile assisted language learning: a literature review. Retrieved December, 20, 2014, from http://ceur-ws.org/Vol-955/papers/paper_8.pdf

Gutiérrez-Colón Plana, M. (2012, August 30). *Mobile learning (smartphones) as a support tool in the language classroom* [Video file]. Retrieved from http://www.youtube.com/watch?v=kcBEMtNv3XM

Hockly, N. (2013). Designer learning: The teacher as designer of mobile-based classroom learning experiences. Monterey, CA: The International Research Foundation for English Language Education. Retrieved February, 21, 2015 from http://www.tirfonline.org/english-in-the-workforce/mobile-assisted-language-learning/

Hu, Z. (2013). Emerging Vocabulary Learning: From a Perspective of Activities Facilitated by Mobile Devices. *English Language Teachin*, *6*(5), 44-54. Canadian Center of Science and Education

Kamalian, A., & Sayadian, S. (2014, July, 30). The role of short text messaging in Iranian EFL vocabulary learning and motivation. *Science Journal of Education*, *2*(4), 101-107. doi: 10.11648/j.sjedu.20140204.12

Keskin, N. O., & Metcalf, D. (2011, April). The current perspectives, theories and practices of mobile learning. *The Turkish Online Journal of Educational Technology*, *10*(2), 202-208.

Khabiri, M., & Khatibi, M. B. (2013). Mobile-Assisted Language Learning: Practices among Iranian EFL Learners. *European Online Journal of Natural and Social Sciences*, *2*(2), 179-190. Retrieved from ISSN 1805-3602

Khodashenas, M. R., & Amouzegar, E. (2013, October). The effect of using mall on Iranian EFL learners' vocabulary learning. *International Journal of Language Learning and Applied Linguistics World*, *4*(2), 51-58.pdf

Kim, D., Rueckert, D., Kim, D.-J., & Seo, D. Students' perceptions and experiences of mobile learning. *Language Learning & Technology*, *17*(3), 52–73. Retrieved from http://llt.msu.edu/issues/october2013/kimetal.pdf

Kim, H-S. (2011). Effects of SMS text messaging on vocabulary learning. *Multimedia-Assisted Language Learning*, *14*(2), 159–180. Retrievable from http://www.dbpia.co.kr

Kukulska-Hulme, A. (2009). Will mobile learning change language learning? ReCALL, 21(2), pp. 157–165.

Kukulska-Hulme, A. (2012). Language learning defined by time and place: A framework for next generation designs. In: D´ıaz-Vera, Javier E. ed. Left to My Own Devices: Learner Autonomy and Mobile Assisted Language Learning. Innovation and Leadership in English Language Teaching, 6. Bingley, UK: Emerald Group Publishing Limited , pp. 1–13.

Kukulska-Hulme. A. & Shield, L., (2008a). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *Recall*. doi:10.1017/S0958344008000335.pdf

Kukulska-Hulme, A. & Shield, L., (2008b). Special issue of ReCALL on Mobile Assisted Language Learning. Cambridge University Press.pdf

Laouris, Y. & Eteokleous, N., (2005). We need an educationally relevant definition of mobile learning. *Proceedings of the 4th World Conference on Mobile Learning*, 290-294.pdf

M-learning. (2014, September 14). Retrieved September 21, 2014, from http://en.wikipedia.org/wiki/M-learning

McCarten, J. (2007). *Teaching vocabulary: Lessons from the corpus, lessons for the classroom*. New York: Cambridge University Press.

Mehdipour, Y., & Zerehkafi, H. (2013, June). Mobile Learning for Education: Benefits and Challenges. *International Journal of Computational Engineering Research*, *3*(6), 93-101.

Miangah, T. M., & Nezarat, A. (2012, January). Mobile-Assisted Language Learning. I*nternational Journal of Distributed and Parallel S ystems*, *3*(1), 309-319.

Mobile Learning. (2014). Retrieved September 21, 2014, from http://www.unesco.org/new/en/unesco/themes/icts/m4ed/

Naismith, L., Lonsdale, P., Vavoula, G., & Sharples, M. (2004). Literature Review in Mobile Technologies and Learning.

Nezhad, A. N., Moghali, M., & Soori, A. (2015). Explicit and Implicit Learning in Vocabulary Acquisition. *Asian Journal of Education and e-Learning, 3*(1), 18-25. Retrieved from www.ajouronline.com

Pettit, J., & Kukusla-Hulme, A. (2006). Going with the grain: Mobile devices in practice. *Proceedings of the 23rd annual ascilite conference: Who's learning? Whose technology?* 647-656.pdf

Pikulski, J. J., Templeton, S., (2004). Teaching and developing vocabulary: Key to long-term reading success. U.S.A: Houghton Mifflin Company. Retrievable from http://www.eduplace.com.pdf

Santos, O. C., & González, B. J. (2011). *Educational recommender systems and technologies: Practices and challenges*. Hershey, PA: IGI Global (701 E. Chocolate Avenue, Hershey, Pennsylvania, 17033, USA.

Sharples, M. (Ed.). (2006). Big issues in mobile learning: report of a workshop by the kaleidoscope network of excellence mobile learning initiative. University of Nottingham.pdf

Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge: Cambridge University Press.

Schmitt, N. (2010). *Researching vocabulary: A vocabulary research manual*. Houndmills, Basingstoke: Palgrave Macmillan.

Smith, C., Carter, R. & Adolphs, S. (2012). Using multimodal corpus resources in mobile learning environments. Research Report. University of Nottingham.pdf

Stockwell, G. (2010). Using mobile phones for vocabulary activities: examining the effect of the platform. *Language Learning & Technology*, *14*(2), 95-110. Retrieved from http://llt.msu.edu/vol14num2/stockwell.pdf

Stockwell, G., & Hubbard, P. (2013). *Some emerging principles for mobile-assisted language learning.* Monterey, CA: The International Research Foundation for English Language Education. Retrieved from http://www.tirfonline.org/english-in-the-workforce/mobile-assisted-language-learning

Sweeney, P. (2013). *Is there evidence for differential benefits between mobile devices used for self-access learning as opposed to language learning in the classroom with the teacher?* Monterey, CA: The International Research Foundation for English Language Education. Retrieved February, 24, 2015, from http://www.tirfonline.org/english-in-the-workforce/mobile-assisted-language-learning/

The in-class flip. (2014, March 24). Retrieved February, 24, 2015, from https://www.youtube.com/watch?v=hhq3Yn_QgIA

Thornton, P., & Houser, C. (2004). Using mobile phones in education. doi:10.1109/WMTE.2004.1281326

Thornton, P. & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning*, 21(3), pp. 217–228.

Ticheler, N. (2010, August 10). Modern foreign languages, higher education and mobile learning. Retrieved September 25, 2014, from https://www.llas.ac.uk/resources/paper/6238

Tomei, L. A. (2008). *Encyclopedia of information technology curriculum integration*. Hershey, PA: Information Science Reference.

Traxler, J. (2009). Learning in a mobile age. *International Journal of Mobile and Blended Learning*, 1(1), 1-12, Retrieved September 21, 2014, from http://www.academia.edu/171500/Learning_in_a_Mobile_Age

Valarmathi, K. E. (2011). *Mobile assisted language learning*. Journal of Technology for ELT. Retrieved September 27, 2014 from https://sites.google.com/site/journaloftechnologyforelt/archive/april2011/mobileassistedlanguagelearning

Zhang, F. (2012). *Computer-enhanced and mobile-assisted language learning: Emerging issues and trends*. Hershey, PA: Information Science Reference.

Appendices

Appendix A: The Students' Questionnaire

University of Mohamed Khider
Biskra
Faculty of Arts and Languages
English Division

Students' Questionnaire

Exploring the Effectiveness of Mobile-assisted Language Learning in Enhancing EFL Learners' Vocabulary Acquisition

Dear students,
This questionnaire aims at exploring "The Effectiveness of **Mobile-assisted Language Learning** in Enhancing **EFL Learners' Vocabulary Acquisition**"
Your most appreciated contribution is expected to be honest and straightforward. Please read all of the questions before answering. Be sure, your identification is kept anonymous. So, please put pen to paper without any delay or hesitation.

May I thank you in advance for your collaboration.

Mobile-assisted Language Learning: the use of mobile devices such as Smartphones, iPods, MP3/MP4 players, etc. in language learning.

Part One: General Information

Q1- Specify your gender

a- Female ☐ b- Male ☐

Q2- Specify your Knowledge of English

a- Good ☐ b-Average ☐ c- Less than average ☐ d- I do not know ☐

Part Two: With Regard to Mobile Devices Usage

Q3- What kind of mobile devices do you have? *(you may tick more than one option)*

a- Basic-phone (no camera/video, no applications, etc.) ☐ b- Smartphone ☐

c- PDA (Personal Digital Assistant) ☐ d- MP3/MP4 Players ☐

e- Tablet Computer ☐ f- Laptop computers ☐

g- Others: …….....

Q4- How often do you use your mobile device applications (per day)?

a- Less than 1 hour ☐ b- 1-3 hours ☐ c- 3 hours or more ☐

Q5- What kind of activities do you often use with your mobile device?

a- Social networking ☐ b- Entertainment ☐ c- Learning English ☐

- **Would you specify examples of the activities?(***you may tick more than one option)*

a- Social media, blogs, etc. ☐ b- Songs ☐ c- Electronic dictionaries ☐

d- Reading e-books ☐ e- Educational applications ☐

f- Others: …….....

Q6- What advantages do you think learning via mobile device offer?

a- Low Coast (i.e., some mobile devices are cheaper than PCs) ☐

b- Practical use/ portability ☐ c- The “anytime-anywhere” advantage ☐

d- Others: ……..

Q7- What are the challenges in learning via mobile devices?

a- Coasts (e.g. obligation of paying for some applications) ☐

b- Technical challenges (e.g. screen size, keyboard size, etc.) ☐

c- Others: ……..

Part Three: With Regard to Learning English

Q8- How often do you use your mobile device to learn English?

Always often rarely never

Q9-- If you do not use your mobile device to learn English, it is because:

……

……

Q10- When do you often use your mobile device to learn English?

a- Free time ☐ b- While waiting (e.g. for a bus) ☐

c- Before sleeping ☐ d- Whenever the opportunity arises ☐

Q11- Where do you often use your mobile device to learn English?

a- Inside the classroom ☐ b- Outside the classroom ☐

c- Wherever the opportunity arises ☐

Q12- Which aspects of English Language you intend to improve when using mobile activities? *(you may tick more than one option)*

a- Listening ☐ b- Speaking ☐ c- Grammar ☐ d- Vocabulary ☐

e- Others …….....

Q13- Are you allowed to use your mobile device inside the classroom?

a- Yes ☐ b- No ☐ c- Depends on the teacher ☐

Part Four: With Regard to Vocabulary Acquisition

Q14- Do you use your mobile device to acquire new vocabulary items?

a- Yes ☐ b- No ☐

If yes, does it motivate you?

a- Yes ☐ b- No ☐

Q15- What kind of activities do you use to acquire new vocabulary items? *(you may tick more than one option)*

a- Mobile applications ☐ b- Reading eBooks ☐ c- Listening activities ☐

d- Games ☐ e- Text messaging (e.g. sending SMS, chatting, twitting) ☐

f- Others: ……..

Q16- Please, select the scale of agreement from below statements.

	Strongly Disagree	disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1- I believe mobile devices are effective for vocabulary acquisition.	a	b	c	d	e
2- Checking my mobile dictionary helps me improve my spelling, grammatical points as well as my pronunciation.	a	b	c	d	e

3- Using my mobile device increases my vocabulary size.	a	b	c	d	e
4- Mobile devices offer opportunities to acquire vocabulary that are not offered by traditional means.	a	b	c	d	e

---

Q17- Does learning vocabulary through your mobile device help you with your courses?

a- Yes ☐ b- No ☐

If yes, which courses?

a- Oral expression ☐ b- Written Expression ☐ c- ESP course ☐

d- Others: ……..

Q18- Do your teachers use their mobile devices as tools to teach vocabulary?

a- Yes ☐ b- No ☐

If no, do you like to see teachers/instructors use mobile devices in courses to teach vocabulary?

a- Yes ☐ b- No ☐

Explain why: …….....

Q19- How would you evaluate your level before and after learning vocabulary through your mobile device?

☐ ☐

a- Improved b- No difference

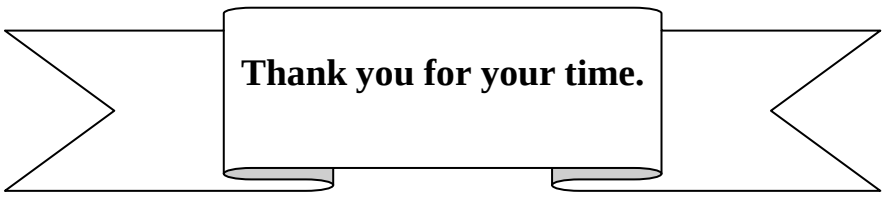
Q20- If you do have any comment with regard to the study, please feel free to write.

……

……...……

Muhammad (PBUH) said**: "Allah will aid a servant (of His) so long as the servant aids his brother. Whosoever follows a path to seek knowledge therein, Allah will make easy for him a path to Paradise"**

[Reported by Muslim]



Appendix B: the Teachers' Interview

University of Mohamed Khider
Biskra
Faculty of Arts and Languages
English Division

The Teachers' Interview

Exploring the Effectiveness of Mobile-assisted Language Learning in Enhancing EFL Learners' Vocabulary Acquisition

Dear teachers,
This interview aims at exploring "The Effectiveness of **Mobile-assisted Language Learning** in Enhancing **EFL Learners' Vocabulary Acquisition**"
Your most appreciated contribution is expected to be honest and straightforward. Please read all of the questions before answering. Be sure, your identification is kept anonymous. So, please put pen to paper without any delay or hesitation.

May I thank you in advance for your collaboration.

Mobile-assisted Language Learning: the use of mobile devices such as Smartphones, iPods, MP3/MP4 players, etc. in language learning.

<u>Part One</u>: General Information

1. What modules do you teach?

.....

<u>Part Two</u>: Perceptions on Mobile-assisted Language Learning

1. **Do you use your mobile device as a tool to improve your teaching style? If yes, How?**

……

……

……

……

2. **To what extent do you allow your students to use their mobile devices inside the classroom?**

……

……

……

……

3. **How do you consider the use of mobile devices as tools to teach the different language skills, namely vocabulary acquisition?**

……

……

……

……

……

4. **Are there any specific mobile activities you use within your course?**

……

……

……

5. **How do you think that Mobile-assisted Language Learning is important to teach English as a Foreign Language in general and vocabulary in particular in the future?**

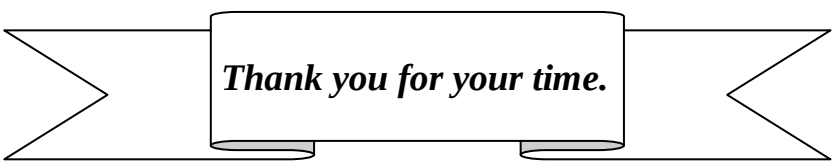
……

……

……

……

……



Résumé

L’apprentissage par mobile est considéré comme un nouveau champ multidisciplinaire populaire de la technologie éducative. Cette nouvelle vague a gagné sa popularité grâce à l’ubiquité de différentes technologies mobiles utilisées pour améliorer l’apprentissage. L’apprentissage des langues assisté par mobile est une approche d’apprentissage des langues qui consiste à utiliser les appareils mobiles pour enseigner et apprendre une langue. Par conséquent, cette étude met en évidence l’utilisation actuelle des appareils mobiles chez les étudiants et les enseignants de l’Anglais comme langue étrangère à l’Université de Biskra. En ce qui concerne l’Anglais comme langue étrangère, la connaissance du vocabulaire est considérée comme sa partie essentielle. Donc, l’objectif principal de l’étude est d’explorer comment les étudiants de l’Anglais comme langue étrangère exploitent leurs appareils mobiles pour acquérir du vocabulaire, ainsi que comment les enseignants de l’Anglais comme langue étrangère utilisent leurs appareils mobiles pour enseigner le vocabulaire. Alors, les données ont été recueillies à l’aide d’un questionnaire dédié aux étudiants et une interview dédiée aux enseignants. Les résultats révèlent des attitudes positives de deux cotés (étudiants et enseignants) envers l’importance et l’utilisation des appareils mobiles. En outre, l’apprentissage des langues assisté par mobile prouve son efficacité dans l’amélioration du vocabulaire des étudiants de l’Anglais comme langue étrangère. Pour conclure, les enseignants et les étudiants sont concernés par l’utilisation des appareils mobiles comme des nouveaux outils pédagogiques d'une manière appropriée afin d’avoir de meilleurs résultats pédagogiques. Par conséquent, les résultats de l'étude en cours apporteront un bénéfice pour tous les praticiens de l'éducation.