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**The Impact of Word-focused Activities, Short Messages,
and their Combination on Students' Receptive and Productive
Vocabulary Knowledge**

**The Case of First-year LMD Students at Frères Mentouri University,
Constantine 1**

Thesis submitted to the department of Letters and the English Language in candidacy for
the degree of 'Doctorat Es-sciences' in Applied Linguistics

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Dedication

TO MY FAMILY

TO FATIMA ZAHRA AND NORA

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Abstract

The present study aimed at investigating the effects of word-focused activities, short messages, and their combination on receptive and productive vocabulary learning by Algerian learners and at exploring students' attitudes towards each of these methods. Four hypotheses were formulated: (1) If different methods are used to teach vocabulary, then they will yield different outcomes in terms of students' receptive and productive knowledge of vocabulary, (2) If short messages are used to teach vocabulary, then students will improve their receptive knowledge of it, (3) If word-focused activities are used to teach vocabulary, then students will improve their productive knowledge of it, (4) If a combination of word-focused activities and SMS is used to teach vocabulary, then students will improve both their receptive and their productive knowledge of it. Sixty first-year students at the Department of English, University of Constantine 1, took part in the study. Twenty participants were randomly assigned into one of the three conditions, pre-tested, taught twenty target words, and post-tested. The participants in the word-focused activities group received instruction via paper-and-pen vocabulary exercises, in the classroom for two weeks; the short messages group received the words with their definitions and example sentences through messages on their mobile phones in a spaced manner over the same period, and the participants under the blended method condition studied the words by means of both methods. The t-tests results showed that all groups improved their receptive as well as productive knowledge of the instructed words post to the interventions. The ANOVA and Scheffé tests indicated that there were statistically significant differences between them, however. It follows that the hypotheses put forward were confirmed. Besides, students showed positive attitudes towards the different methods, yet to varying degrees. The main implication dictated by the findings of the present study is that paper-and-pen vocabulary exercises are still effective and favoured, in the digital era. The SMS-based learning could be more efficient if a number of requirements are taken into consideration. Their combination is the most valued by students.

List of Abbreviations

ANOVA: Analysis of Variance

CALL: Computer Assisted Language Learning

CD ROM: Computer Disc Read-only Memory

DV: Dependent Variable

DVD: Digital Versatile Disc

E-: Electronic

EFL: English as a Foreign Language

ESP: English for Specific Purposes

ESL: English as a Second Language

FFI: Form-focused Instruction

FL: Foreign Language

FonF: Focus on Form

FonFs: Focus on Forms

GPRS: General Packet Radio Service

GPS: Global Positioning System

GSM: Global System for Mobile Communications

H₁: alternative hypothesis

H₀: null hypothesis

ISDN: Integrated Services Digital Network

IV: Independent Variable

L1: First Language

L2: Second Language

MALL: Mobile Assisted Language Learning

MCQ: Multiple Choice Question

M-: mobile

MMS: Multimedia Messaging Service

MP3: Music Player Layer-3

MP4: Multimedia Player Layer-4

N°: Number

PC: Personal Computer

PDA: Personal Digital Assistant

PPP: Presentation-Practice-Production

PVLT: The Productive Vocabulary Levels Test

Q: Question

SIM: Subscriber Identification Module

SLA: Second Language Acquisition

SME: Short Message Entities

SMS: Short Messages Service / Short Messages

TL: Target Language

TV: Television

USB: Universal Serial Bus

VLS: Vocabulary Learning Strategies

VLT: Vocabulary Levels Test

Wi-Fi: Wireless Fidelity

3G: Third Generation

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GENERAL INTRODUCTION

1. Background of the Study

It is commonsense that the role of vocabulary in language learning is undeniable, but it was neglected in language teaching for the sake of grammar or phonology for a long time. But lately, it has gained more and more significance in language teaching, especially in second and foreign language settings because language teachers and researchers have recognized its importance, as Wilkins stated it very markedly: “Without grammar, very little can be conveyed; without vocabulary nothing can be conveyed” (1972, cited in Thornburry, 2002, p. 13). Vocabulary has even been seen as a separate ‘skill’ that learners should master to be good users of the language (Catramado, 2004).

The last decades have witnessed a bulk of studies relevant to different aspects of vocabulary learning and teaching. Many researchers experimented with various vocabulary instructional methods and evaluated their effectiveness. However, there were inconsistencies in the findings which has led to arguments for/against one method or another. One group of theorists is for intentional vocabulary teaching; another favours the incidental one, yet a third supports the combination of both.

Advocates of the first view maintain that vocabulary items should be taught explicitly in the classroom to set up the link between form and meaning via word definitions, synonyms, antonyms and games such as crosswords and puzzles. Laufer (2005, 2010) believes this way to be the basis for building foreign language learners’ vocabulary and asserts that it is more effective to aid them to acquire a good deal of words. On the other hand, vocabulary learning can take place incidentally through exposure to the target language; that is, students learn new lexical items when they come across them during reading or listening activities. Proponents of this opinion argue that classroom time is too short to present and teach the many words of an L2. For example, Krashen (2009) denies the effectiveness of any instruction and avers that

vocabulary is best acquired through ‘input’ that a language learner gets through reading *alone*. Still, combining both paradigms has been the idea supported by many outstanding researchers such as Paribakht and Wesche (1997), Nation (2006), Schmitt (2008), and Ma (2009). They maintain that the two types are complementary and not contradictory.

Recently, research into the teaching of vocabulary has been directed towards the introduction of new technologies and the examination of their effectiveness. Hence, computer assisted language instruction and mobile learning came to existence, where computers, laptops and cell phones have been used to teach languages. For instance, there have been many experiments examining the utility of Short Messages Service (SMS) in higher education, namely those of Garner, Francis, and Wales (2002); Divitini, Haugalokken, and Norevik (2002); Levy and Kennedy (2005); Markett, Sánchez, and Tangney (2006), and Guy et al., (2010). In these initiatives, students received information about lecture timetables, examination locations, marks, lecture contents, activities, and feedback on their performance through SMS. In second and foreign language contexts, SMS were mainly used in vocabulary instruction; learners received word definitions, sample sentences of vocabulary use, phrases, and idioms. Such studies were carried out by Brown (2001), Thornton and Houser (2003, 2005), Kiernan and Aizawa (2004), Chinnery (2006), Lu (2008), and Katz (2015), to name only a few. While many researchers stressed the advantages of mobile learning such as transportability, ease of use, motivational value for learners, and effectiveness; others focused on its barriers, especially technological constraints (e.g., limited screen size and resolution), and fragmentation of learning because of environmental disturbance (Masrom & Zuraini, 2010).

On the whole, controversy over which practices are the best in the area of vocabulary instruction is due to the complex nature of vocabulary. Milton (2013) clarified that knowing a word is multidimensional; there are degrees of word knowledge. When one knows a word and

is able to recall and use it while speaking or writing, then he is said to have ‘productive knowledge’ of that item. But, if one can only recognize and understand a word he meets in a reading or listening material, then he is said to have ‘receptive knowledge’ of it. The aim of any sound instruction is to enable learners acquire both aspects of word knowledge: receptive and productive (Schmitt, 2000).

The characteristics of such an instruction have been the focal point of a body of research. One example is Paribakht and Wesche’s study (1997), where they used two conditions for measuring participants’ word acquisition: ‘reading only’ and ‘reading plus vocabulary tasks’. The findings revealed that the ‘reading plus’ group gained significantly more words than the ‘reading only’ group. In the same line, Laufer (2003) confirmed the abovementioned results after conducting three experiments where reading, reading with word-focused tasks and word-focused tasks alone were compared. In all experiments, participants retained more items when they engaged in vocabulary exercises. These findings substantiated the significance of intentional vocabulary instruction where words are learnt in or out of context using given tasks.

In addition to input and vocabulary activities, another feature is stressed in vocabulary instruction: rehearsal or repetition. Laufer and Paribakht (1998, p. 384) asserted that repeated exposure facilitates the “successful passage of words from receptive to productive vocabulary”; otherwise, this move will be very long to happen or will never happen. In the same vein, Nation (1982) confirmed that learners tend to forget words directly after encountering them for the first time and thus repetition should happen just after the new words are met.

Authorities in the field of second language acquisition research suggest that if interesting input, word-focused activities and frequent rehearsals are employed simultaneously, they are likely to engender the best results (Nation, 2001; Laufer, 2003;

Schmitt, 2010). Nonetheless, further researchers such as Paribakht and Wesche assert that more research is needed as “It is still far from clear how learners acquire vocabulary or how it can be best taught.” (1997, p. 174).

In the light of the arguments presented above, the present study seeks to examine the effectiveness of three instructional methods and find out whether it is enough to use word-focused activities alone, text messages (SMS) alone, or a combination of both ways is necessary for assisting learners in fostering their passive and active vocabulary knowledge.

2. Statement of the Problem

Without large word banks, learners will not develop adequate listening, speaking, reading, and writing skills. But, to build such vocabulary is not an easy task; there should be a pedagogy that encourages students to gain knowledge of different aspects of words.

Algerian students are exposed to a substantial bulk of English vocabulary along their academic years, and throughout the different subjects they take. Yet, not a lot of benefit is gained; they often cannot retain a great deal of words they come across, or they fail to recall many words they already know for later use. Conversing with teachers of different subjects revealed that vocabulary teaching is done mainly via verbal explanation and exemplification of words unfamiliar to students, in the course of a lecture. This explanation is not planned for; that is, no special attention is given to vocabulary instruction per se. From here stems the need for renewing the interest in vocabulary instruction in the content area on the one hand, and exploring different instructional methods in view of identifying those which best assist students in learning vocabulary receptively and/or productively, on the other hand. Such ways can be the utilization of word-focused activities, short messages, or a combination of both (the blended method).

According to McKeown and Beck (2004), if we want students to be knowledgeable in vocabulary, we have to make them reflect carefully on a word uses and connections to other

words to create meaning through word-oriented activities. Alternatively, repeated exposure is indispensable for retention to occur. Thornton and Houser (2005) view short messages as a means to afford for this repetition in an effective way because students can take advantage of SMS availability, easiness of use, motivation; and teachers will enjoy SMS novelty, immediacy, and ability to escape classroom time constraints to provide learners with the repeated exposure necessary for them to learn words.

3. Aim of the Study

The aim of the present study is twofold. It aims at comparing and evaluating the usefulness of three vocabulary instructional methods, namely word-focused activities, text messages (SMS), and a combination of both for students to acquire both receptive and productive vocabulary knowledge. It is hopefully intended both to revive teachers' interest in vocabulary focused instruction and to help them identify the most effective ways of teaching vocabulary to meet their students' specific needs.

Besides, it seems necessary to carry out some studies on mobile language learning, specifically SMS-based vocabulary learning as there is a lack in this area in our university at least, to the best knowledge of the researcher. The present research is likely to provide insights into how much effective is SMS-based vocabulary instruction in comparison to other methods, on the one side, and into learners' perceptions of and attitudes towards this way for learning new words, on the other side.

4. Research Questions

This study addresses the following questions:

1. Will the instructional methods of word-focused activities, short messages, and their combination yield similar or different results in terms of first-year students' receptive and productive vocabulary learning?

2. Which instructional method will best assist students in learning vocabulary receptively: word-focused tasks, SMS, or their combination?
3. Which instructional method will best assist students in learning vocabulary productively: word-focused tasks, SMS, or their combination?
4. Which instructional method will best assist students in learning vocabulary both receptively and productively: word-focused tasks, SMS, or their combination?
5. What are students' perceptions of and attitudes towards the use of the different methods for teaching vocabulary?

5. Hypotheses

Based on the abovementioned questions, we put forward the following hypotheses:

1. If different methods are used to teach vocabulary words (word-focused activities, SMS, or a combination of both), then they will yield different results from each other in terms of first-year students' receptive and productive vocabulary knowledge.
2. If short messages are used to teach vocabulary words, then first-year students will learn them receptively.
3. If word-focused activities are used to teach vocabulary words, then first-year students will learn them productively.
4. If a combination of word-focused activities and SMS is used to teach vocabulary words, then first-year students will learn them both receptively and productively.

6. Research Tools

In the current study, a pretest/post-test experiment is carried out. It is intended to measure the effects of each type of instruction (word-focused activities, SMS, and their combination) on students' vocabulary receptive and productive knowledge. In addition, a

questionnaire is administered to each group of students to collect data about their opinions and attitudes towards the method of instruction they were subjected to.

7. Structure of the Dissertation

This dissertation includes six of chapters. The first chapter addresses vocabulary issues such as its definitions, importance for language learners, learning strategies and teaching methodologies. The second and third chapters provide the review of literature on the instructional methods under consideration in this study, namely word-focused activities method (chapter two) and SMS-based vocabulary learning (chapter three). Issues pertinent to their definitions, historical overviews, status and application in the field of language and vocabulary learning and teaching are dealt with.

The fourth chapter is devoted to the presentation of the methodology, instruments, and procedures used in collecting data. The fifth chapter includes the reporting on and analyzing of data about the impact the independent variables (word-focused tasks, short messages, or a combination of both) had on the dependent variables (vocabulary receptive and productive knowledge). In the light of the findings of the present study, the sixth chapter discusses a number of pedagogical implications and recommendations that ensued in relation to vocabulary learning and teaching.

CHAPTER ONE: VOCABULARY

Introduction

The importance of vocabulary in language learning is acknowledged at the level of linguists, writers, teachers, and students; they all agree that someone's ideas and feelings are not conveyed but through words, as markedly put by Scrivener (2005, p. 228) "The more words I have, the more precisely I can express the exact meanings I want to." Hence, vocabulary teaching has gained primacy over grammar in the last decades, and researchers have proposed varied instructional ways to promote word learning and fight forgetting. This chapter covers these issues and more. It attends to vocabulary definitions, learning, teaching, and testing.

1.1 Vocabulary Defined

Over time, vocabulary definitions have witnessed some alteration. First, by vocabulary were meant all the words used by a given person, social class or profession (Burns¹, 1972). With more specification, these words are used in their oral or written form, and they are divided into core, common vocabulary as well as specific vocabulary resultant from personal life experiences (Hodges², 1984). Not only single words but also word groups with a single meaning (phrases and fixed expressions) form the elements of vocabulary (Lewis³, 1993). In this way, the latter became knowledge of words which encompasses their meanings, spoken

¹ "[Vocabulary is] the stock of words which is used by a person, class or profession" (Burns, 1972, p. 295).

² "The vocabulary, or lexicon, of a language encompasses the stock of words of that language which is at the disposal of a speaker or writer. Contained within this lexical storehouse is a core vocabulary of the words used to name common and fundamental concepts and situations of a culture, as well as subsets of words that result from one's personal, social, and occupational experiences" (Hodges, 1984, p. 2).

³ "The words of a language, including single items and phrases or chunks of several words which convey a particular meaning, the way individual words do" (Lewis, 1993, p. 2).

and written forms (Schmitt⁴, 2000). Then, word knowledge exceeded these elements to a greater scope, that of broad knowledge of the world and how words go well with it (Stahl⁵, 2005). In brief, vocabulary definition is layered; it was first linked to the person, then to the language and then to the world at large.

1.2 Importance of Vocabulary

Because vocabulary is “the vital organs and flesh” (Harmer, 1991, p. 153), more exactly “the core or heart” (Lewis 1993, p. 89) of language, vocabulary learning is akin to language learning. Countless researchers relate a language learner’s success to his knowledge of words. O’Rourke clearly put it (1974, p. 14): “Vocabulary development is a vital part of each student’s life; it affects his thoughts, actions, aspirations, and often his success”, especially in second and foreign language environments where learning vocabulary is the basis for learning all other language skills: listening, speaking, reading and writing (Nation, 2001).

As communicators, learners need both listening and speaking vocabulary. The former includes the words a person hears and understands, and because it is the first type of vocabulary one learns, it seems to be the largest (Reutzel & Cooter, 2003). Learners are required to cover 95% of running words to understand adequately what is being said (Nation, 2001). The latter comprises the words one uses in his speech (Reutzel & Cooter, 2003). It is a subset of listening vocabulary as only 2,000 words are enough for holding conversational speaking (Schmitt, 2000).

⁴ “Vocabulary is knowledge of words, including explanations of words meaning. Briefly, a word is described as a sound or a combination of sounds, or its representation in writing or printing that symbolizes and communicates a meaning.” (Schmitt 2000, p. 5)

⁵ “Vocabulary knowledge *is* knowledge ; the knowledge of a word not only implies a definition, but also implies how that word fits into the world” (Stahl, 2005, p. 95).

As readers, learners should recognize and comprehend words when reading texts, and this is reading vocabulary, the second largest after listening vocabulary (Reutzel & Cooter, 2003). To read an academic text with comprehension, learners need to gain knowledge of 4,000 word families including 2,000 high frequency general service words, Academic Word List (750 words) and 1,000 or more specialist and low frequency words, as counted by Nation (2001).

As writers, learners need writing vocabulary. This refers to the words students utilize to express their thoughts and feelings when composing different texts (Reutzel & Cooter, 2003). It is considered to be the broadest range of vocabulary in the sense that it includes words that students can understand when listening, speaking, and reading and at the same time can retrieve while writing (Reutzel & Cooter, 2003).

To sum up, vocabulary is vital for language learners because successful listening, speaking, reading and writing depend on excellent knowledge of words. An idea backed up by Read (2000) who claimed that a lot of L2 learners spent energy and time in memorising lists of L2 words because they believe that learning the new language is synonymous with learning its vocabulary. He noted that for teachers and researchers, vocabulary, not grammar, should be at the center of the language teaching process, especially that a vocabulary size of 15,000 to 20,000 word families may be required to get a native like competency (Schmitt, 2000).

1.3 Approaches to Vocabulary Knowledge

What does it mean to know a word? A common sense answer would be to know its form and meaning. However, it is not that simple. Many experiments and studies carried out over time have uncovered much more complexities in knowing a word than usually lay people thought, confirmed Laufer (1996), Miller (1999), Nation (2001), Schmitt (2010) and other authorities in the field of vocabulary research. Knowing a word has been approached in different ways by different researchers giving rise to approaches to vocabulary knowledge.

Vocabulary knowledge, also referred to as ‘lexical knowledge’ (Richards, 1976) or ‘word knowledge’ (Laufer, 1990), is described as a construct made up of sub-knowledges of many word facets: form, sound, meaning(s), associates and collocations (Nation, 2001; Schmitt, 2010). It is also envisaged as a continuum of stages where learners move progressively from one stage to the next acquiring more knowledge about a given word at every stage (Paribakht & Wesche, 1993; Henriksen, 1999). The former view is represented in the componential approaches and the latter in the developmental approaches to word knowledge.

1.3.1 Component Approaches

Componential approaches seek to find about the various components that contribute to word knowledge and to describe the ways in which they differ from each other (Milton & Fitzpatrick, 2014). These approaches can be based on lists, dimensions, or reception and production types of knowledge.

1.3.1.1 Lists of Word Knowledge

One of the earliest and most influential lists of word knowledge components is Richards’ list (1976) which was taken as a basis for subsequent research in this area. For Richards, to show ‘lexical competence’ means to have an idea about seven aspects of a word: its frequency of occurrence in speech and print, restraints on its use as imposed by function and situation, its grammatical properties, its basic form and other possible words that can be affixed or derived from it, possible associations with other words, and its meaning depending on the context used in.

Inspired by Richards’ list, Nation (2001) organized a more detailed list which is, to date, very influential and widely cited in the literature and used in experiments on word knowledge. In fact, we also find the list very appropriate to provide the theoretical background for the present study as interest here is in investigating ways which may assist

learners in the task of acquiring both receptive and productive knowledge of words. Table 1 below includes a summary of the various aspects of word knowledge as conceived by Nation (2001, p. 27).

Table 1.1

What Is Involved in Knowing a Word? From Nation (2001, p. 27)

Aspect	Component	Receptive knowledge	Productive knowledge
Form	Spoken	What does the word sound like?	How is the word pronounced?
	Written	What does the word look like?	How is the word written or spelled?
	Word parts	What parts are recognizable in this word?	What word parts are needed to express the meaning?
Meaning	Form and meaning	What meaning does this word form signal?	What word form can be used to express this meaning?
	Concepts and referents	What is included in this concept?	What items can the concept refer to?
	Associations	What other words does this make people think of?	What other words could people use instead of this one?
Use	Grammatical functions	In what patterns does the word occur?	In what patterns must people use this word?
	Collocations	What words or types of words occur with this one?	What words/ types of words must people use with this one?
	Constraints on use (register, frequency...)	Where, when, and how often would people expect to meet this word?	Where, when, and how often can people use this word?

Nation divided word knowledge into three areas: Form, meaning and use, each of which subdivides into three sections. The first important part of the learner's knowledge of a word relates to knowing what its form i.e, how it sounds and how it is pronounced (spoken form); how it looks like, and how it spells (written form); how it is structured (the parts forming it: Prefix-root- suffix), and which part carries the intended meaning.

The second critical area in word knowledge is that of meaning with its three subdivisions of form and meaning, concept and referents, and associations. To explain, form and meaning refer to the bi-directional relationship between the word form and its meaning;

that is, which meaning the form I see or hear has, and which form to give to the meaning I want to express. Sometimes, however, one concept has many referents, so it is important to know the different connections between a concept and the many senses it may bear and decide which specific one is meant, like in figurative or ironic uses. Also to be said knowledgeable about a word, learners should show awareness of its associations, or the other words in the language that can be allied with it, as well as its synonyms and antonyms.

The use area concerns knowledge of the grammatical structures the word fits into, its collocational behavior, and the limitations placed on its use such as when, where, with whom, how often it is appropriate to utilize the word.

A further division in Nation's list is that of receptive and productive aspects of word knowledge. Each subdivision of the three major areas mentioned earlier should be learnt receptively for recognition and comprehension and productively for use and production purposes.

1.3.1.2 Dimensions of Word Knowledge

Anderson and Freebody (1981) coined the terms 'breadth and depth' of word knowledge. The former links to vocabulary quantity or the number of words the learner has knowledge of, and the latter to the quality of that knowledge or how well he knows them in terms of form, meaning, use, associations, and collocations. Milton and Fitzpatrick (2014) asserted that breadth and depth interlink; a large vocabulary size (breadth) leads to a greater number of relationships between words in the mental lexicon (depth).

Meara's framework (1996) is another example of dimensional approaches. Here, the term breath is replaced by 'size' and depth by 'organization', and a third dimension 'accessibility' is added. According to Meara (1996), size is fundamental for lexical competence. The larger the learner's vocabulary is; the more he tends to be proficient in language use. More words enable learners to express themselves better in whatever situation.

Organization goes beyond the accumulation of knowledge of individual vocabulary items; it is about how each word connects to other words in the learner's mind. These relationships, Meara explicated, form a kind of a web-net of pragmatic, syntactic, situational, or emotional associations; all of which contribute to the meaning of the word. He stressed such networks as being the line between true vocabulary and a mere list of words learnt by heart. The more chains a learner produces; the more knowledgeable he might be considered. That is, regardless of vocabulary size, learners with well-structured vocabulary are better users of the language in comparison with their counterparts having weakly- organized lexicons.

Meara and Wolter (2004) pointed out that breadth and depth of knowledge are not contradictory; instead, they interact together to form vocabulary knowledge in a complementary way. The writers concluded that the correlation between size and organization is not straightforward because a large vocabulary size does not lead to a better organization of the lexicon; in fact, some learners have small-sized vocabulary but highly-organized lexicons whereas others have large word banks but poorly-organized lexicons.

1.3.1.3 Receptive and Productive Word Knowledge

The Notions of receptive/passive and productive/active vocabulary knowledge date back to 1921 when Palmer listed two different abilities people show with vocabulary: Recognizing words in listening and reading contexts and using them in speech or print (Milton and Fitzpatrick, 2014). This distinction is valid nowadays also. There is ample, exhaustive research on the dimensions of reception and production in vocabulary types, knowledge, learning, and testing.

Receptive vocabulary knowledge is a description of the person's ability to recognize a word when hearing or reading it (Schmitt, 2010). This entails a number of competences, according to Nation (1987):

- to distinguish the word form from other similar words' forms,

- to determine if its spoken or written form is correct or not,
- to expect the syntactic structure within which it might appear,
- to have an idea about how frequently the word occurs in the language,
- to be aware of its collocational behavior and registeral restrains,
- to be able to associate it with the different possible other words, and
- to remember the word's meaning intended by the specific context where it is met.

On the other hand, productive vocabulary knowledge relates to the word use (Schmitt, 2014). Nation (1987) spelled out that it is an extension of receptive knowledge. Knowing a word productively, for Nation (1987), means being able to do the following:

- say it correctly,
- spell and write it correctly,
- employ it in accurate grammar structures,
- utilize it in associational and collocational patterns,
- use it frequently, in the right situation, with the right persons, and
- choose the most appropriate word to express the target meaning.

Although the receptive and productive facets of vocabulary knowledge are interrelated, the relationship is not always straightforward. The findings of Bogoads and Laufer's (2004) synthesis of many studies on the connections between these two forms revealed that they are not linear; they rather overlap. Schmitt (2010) confirmed this fact relying on his personal experience with words. He knew that the order in which the two types of knowledge take place was not always necessarily reception followed by production because he was able to use certain words productively before recognizing them receptively.

1.3.2 Developmental Approaches to Vocabulary Knowledge

Developmental approaches put in the best light the incremental nature of vocabulary acquisition. Researchers attempted to identify at which stage a new part of word knowledge is

gained (Milton & Fitzpatrick, 2014). Developmental approaches rely on componential approaches characterization of word knowledge. To explain, knowledge of some components take place before others; for example, knowledge of word form comes before knowledge of its collocates. In the same way, breadth of knowledge seems to precede depth of knowledge, and a word is very often acquired receptively then productively (Milton & Fitzpatrick, 2014). An instance of the link between componential and developmental approaches in the same framework may be that of Nation (2001) where development of word knowledge progresses through different stages from knowing the word form receptively to using it productively passing through the phase of knowing its meaning.

In this line, Paribakht and Wesche (1993) proposed the ‘vocabulary knowledge scale’, which is commonly quoted in the literature on vocabulary knowledge. They developed this scale while experimenting with vocabulary knowledge L2 learners gain through reading. As its name hints, the scale is a ranking measure made up of five statements; each one represents a level of vocabulary knowledge. The degrees of knowledge range from the initial level being that where the word is completely unknown, to the second being recognition of the written form, then comes the ability to explain the meaning of the target word without certainty in the third level and with certainty in fourth one, and the fifth and final level relates to learners’ ability to use the word in a sentence of their own. So, it is self-reported i.e. learners themselves report on how well they think they know the word by selecting the relevant statement(s). This five point scale can be divided into two categories of word knowledge, with levels 1 and 2 designating receptive knowledge and levels 3, 4 and 5 the productive one.

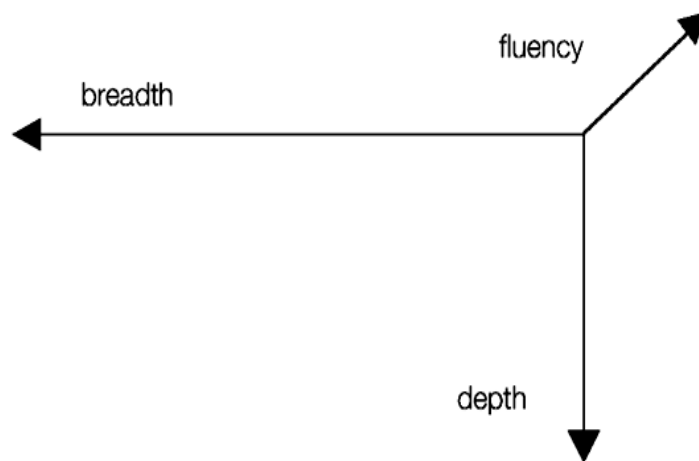
1.3.3 Metaphorical Approaches to Vocabulary Knowledge

Writers often find it difficult to explain what word knowledge is and how it occurs because of its complex and multi-dimensional nature; thus they make recourse to metaphors (Milton & Fitzpatrick, 2014). Daller, Milton and Treffers-Daller (2007) opted for one such

metaphor: The lexical space. In this space, knowing a word is three-dimensional; it has breadth, depth, and fluency aspects as presented in Figure 1.1 below.

Figure 1.1

The Lexical Space: Dimensions of Word Knowledge and Ability (From Daller et al., 2007, p. 8)



Breadth of lexical knowledge axis refers to the total number of words a learner has receptive and productive knowledge of their forms (spoken, written, parts) and form-meaning relationships. The lexical depth axis denotes how much knowledge the learner has about the words he knows viz., concepts and referents, associations, grammar features, collocations, and restrictions on use. The fluency axis symbolizes automaticity and accessibility of words i.e. how fast and accurately the learner can use a word he knows. The lexical space limited by these three axes reveals precisely a learner's vocabulary knowledge. The latter can be located at any point of each axis determining its breadth, depth, and fluency. This metaphor becomes "both attractive and convenient" to depict every learner's knowledge of words, Daller et al., (2007) believed.

Because of the complexity of lexical knowledge, Schmitt (2010) explained, the aspects discussed above do not take place simultaneously but rather incrementally. They are not learnt

at the same time; they are acquired over time, at varying rates and after multiple encounters where knowing one feature leads to knowing others (Schmitt, 2010). Similarly, knowing the different facets of a word is likely to move from the receptive mode to the productive one in general (Thornbury, 2002).

The previous sections about what learning vocabulary entails and how it can be approached make it evident that this is not any easy task. The many words and the many aspects of each word to learn place a learning burden on the person, or a ‘mental weight’ in Nation’s words (2001).

1.4 Vocabulary Learning Burden

Learning a second language vocabulary is the most labor demanding and time-consuming task for English Language Learners (ELLs) (Ketabi & Shahraki, 2011). They face many challenges when learning a new language and trying to use it. First, they must acquire a great deal of words for comprehension and production of that language. Second, they have to remember them and be ready to retrieve them when needed. Third, they should develop strategies to guess the meanings of unfamiliar words and discover new uses of familiar words (Ketabi & Shahraki, 2011).

Learning every word requires an amount of effort on the part of the learner which is different from that of other words; that is to say, there is a ‘learning burden’ specific to each word in the language (Nation, 2001). Three things lie behind difficulty in learning words.

To begin with, Vadasy and Ron Nelson (2012) made reference to the learner’s linguistic background including knowledge of his primary, second or foreign language. This knowledge constitutes a data base the learner can draw on to learn novel words. For instance, a second language word which is similar to a word in the first language (in spelling, pronunciation, meaning, collocations, grammar, etc) is easier to learn, and it is said to have a small learning load. The opposite is true. Learning an item from the second language that is

completely different from its first language equivalent puts a heavy burden on the learner (Vadasy & Ron Nelson, 2012).

Next, the learners' learning/teaching experience with the word is also at play. How a word is learnt or taught influences its amount of burden (Nation, 1987). Teaching, if not appropriate, contributes to the difficulty of learning words and words facets. One possible way to reduce difficulty is repetition or repeated exposure to the same word over given intervals. Attentive study of the word is also necessary, for repetition without attention will not yield the desired outcome, the learning of the word. Another way is the use of learners' existing knowledge. While introducing new materials, linkage to old material should be made. This prevents forgetting previously learnt words and eases integrating and assimilating newly learnt ones (Nation, 1987). A further teaching solution Nation suggested is to take into consideration the connections a word has with other words. Words similar in form, meaning or other aspects should not be taught at the same time because cross associations may take place, making it more difficult to acquire the words than when met separately (Nation, 1987). To clarify, the antonyms 'introvert' and 'extrovert' should not be introduced together because learners may assign one word the meaning of its antonym.

Finally, there is the word inherent difficulty in its form, meaning or use. Complex spoken or written form correlates positively with heavy learning burden (Vadesy & Ron Nelson, 2012). To solve this situation, gradation in the teaching of the word spoken and written forms is necessary; whenever possible, first language and second language words having similar pronunciation or structure should be introduced first (Nation, 1987). Polysemous words, which bear multiple connotations, and words having overlapping meanings proved to be problematic for ELLs, too (Thornbury, 2002). So, it is unwise to present learners with all the word shades of meaning at once; instead, only the core sense should be subjected to instruction at first, then other meanings of the word are introduced

gradually (Vadasy & Ron Nelson, 2012). Knowing how to use a word, according to Nation (2001), entails having knowledge of its grammatical behaviour, collocational relations and restrictions of use, which proved to be tricky for ELLs. Explicit instruction of these aspects is what Nation (1987) advised to do.

In order to alleviate vocabulary learning burden, strategic schemes need to be worked out. Some are pertinent to learners, who have to use strategies that help them with the task of learning lexis. Others relate to teachers, who should employ strategies which reduce the burden and smooth the process for learners. Teaching and learning strategies are the issues to be discussed in what follows.

1.5 Vocabulary Learning Strategies

The origin of the word ‘strategy’ is the Greek word ‘strategia’ which means ‘generalship’ or ‘the art of war’ characterized by outlining, competing, manipulating, and moving towards an objective (Oxford, 1990, p. 7). By the same token, vocabulary learning strategies (VLS) can be defined as special ways employed in the particular endeavour of learning vocabulary in the target language (Takac, 2008), or processes learners use to help themselves attain and grasp new vocabulary items (Klapper, 2008). More exactly, they are intentional procedures employed by learners to learn and memorize words meanings (Lawson & Hogben, 1996). In fact, utilizing VLS is an indicator of skilled learners who make proof of activeness and involvement in the learning process (Oxford, 2008). Schmitt (1997) and Klapper (2008) noticed that vocabulary is the language area where learners tend to use learning strategies the most. This state is justified by (a) the importance learners’ attach to learning vocabulary in the TL, (b) the relatively itemized nature of vocabulary which gives room to the application of all these strategies more efficiently than in, say, listening, speaking or writing (Klapper, 2008) and (c) the activities learners deal with in the classroom are mainly discrete, not integrated making it more suitable to use the VLS (Schmitt, 1997).

Nation (2001) characterized a strategy, from a teacher's standpoint, as a complex of many steps useful for promoting one's vocabulary acquisition and use, and which can be learnt and improved via training. He classified VLS on the basis of the distinction between vocabulary learning aspects, sources and processes. The result is a taxonomy with three general classes of strategies; each of which is further divided into a number of sub-categories:

- a. Class 1: Planning: Choosing what to focus on and when to focus on it.
- b. Class 2: Sources: Finding information about words.
- c. Class 3: Processes: Establishing knowledge through noticing, retrieving or generating

According to Nation, when planning vocabulary learning, learners should choose which words to learn (high frequency, low frequency, academic or technical), which specific aspects of these words to devote attention to (form, meaning, use), which strategies to use to learn these words and aspects (dictionary, word cards, vocabulary notebook...), and how often they need to rehearse and recycle learnt words and at what intervals of time.

The second class relates to finding sources of information about the to-be-learnt words. These include analyzing the word morphology such as base and affixes, using textual context; consulting reference sources in L1 or L2, namely dictionaries, glossaries, lists; establishing connections between L1, L2, and any other language learners know; or still asking an expert.

In addition to planning vocabulary learning and sourcing information about target words from different places, learners need to memorize them and get ready to recall them when necessary by means of processes for establishing vocabulary knowledge such as putting words in a notebook, lists, word cards or just repeating them orally or visually, recalling learnt words for either receptive or productive use depending on the situation, generating new information about a word when subsequently met in novel contexts along with relating new and old bits of information about the same item as in the case of metaphorical or creative use.

Lawson and Hogben's study (1996) proved a positive correlation to exist between strategy use and vocabulary recall. Learners who remembered words were those who very often employed a variety of strategies to learn the target words. The researchers grouped the strategies learners used into four groups: (a) repetition (saying target words out loud many times, rereading them, writing the word-meaning complex, and self-testing one's recall of the word), (b) word feature analysis (noticing spelling, part of speech and affixation), (c) simple elaboration (translation, use of background knowledge, appearance similarity and sound link between target and other words in L1 or L2) and (d) complex elaboration (guessing from context, paraphrasing and mnemonics and imagery).

1.6 Vocabulary Teaching

Different theorists and practitioners suggested different criteria to select vocabulary words for instruction and different ways to teach them.

1.6.1 What Vocabulary to Teach

In course books, words are selected for instruction because of a number of factors, among which frequency and usefulness are prominent. First of all, high frequency words should form the core of any vocabulary program (Nation, 2006). Nation advanced that 2000 or 2750 most frequent words have to be dealt with in the classroom via direct instruction, activities, and deliberate learning; on the other hand, teachers need not to spend classroom time in instructing low frequency words since they are too many and uncommonly used in speech or print. According to him, students have just to be acquainted with strategies to handle these infrequent words, namely guessing word meaning from context, word cards, word parts analysis, and dictionary use skills.

Frequent words are subjected to teaching because they are thought to be useful (Laufer, 1990). Usefulness is one underlying feature upon which selection of words for instruction is made (Beck, Mckeon & Kucan, 2005). Not all words of the language are equally

useful; some are more useful than others. Beck et al., identified three tiers or levels of word utility. Tier one includes the most basic words which does not really need teaching at school. Tier three comprises infrequent words which usually are specialist terms. These need to be instructed in content-area. Tier two consists of high frequency words that adult language speakers know and use; these are words that need to be instructed. Beck et al., (2005) named useful words important ones as they are widely used in speaking and writing. Nation and Meara (2002) believed that these words should be learned first and should be 'well learned' before moving to other words. They asserted that a very useful list is the one compiled by Coxhead 2000 "Academic Word List" which includes 570 word families found in a wide range of academic texts used by learners in the course of their studies. On average, 30 of the academic word list entries appear on every page of an academic text.

Laufer (1990) identified further principles for the choice of would-be-learned vocabulary, including need (words needed by learners to perform different tasks), coverage (words covering a variety of instances of use such as 'nice and take'), range (words belonging to various registers), and learnability (words not difficult to learn and some polysemous and confused words). Learners make recourse to such words to express themselves, and overall, learning more words is always fruitful receptively and productively.

1.6.2 How to Teach Vocabulary

It has been estimated that an educated adult native speaker knows 15-20 thousand word families (Smith, 2010), but, according to Thornburry (2002), their L2 counterparts know only 5000 word families; this difference is not due to aptitude to learn words but to lack of exposure or repeated encounters with words. Zimmerman (2006) thought that a beginner needs only from 1000 to 2000 top words found in dictionaries. This is called 'the core or defining vocabulary', necessary to comprehend 90% of any text; it is elevated by some other

researchers to 3000 word families for General English and 5000 word families for specialized needs (Thornburry, 2002). How to achieve this goal is all about how to teach vocabulary.

Teaching vocabulary can be planned or unplanned, and because it echoes learning vocabulary, the words ‘explicit’ and ‘implicit’ better describe the two ways, respectively. In fact, the terms ‘implicit’ and ‘explicit’ learning originated in cognitive psychology (Ma, 2009). Defining implicit learning is more difficult than defining explicit learning. The former is rather more evasive, less visible and needs more time to be detected; the latter is precise, discernible and can be noticed in a short period of time, Ma added.

In effect, most writers use the terms incidental and intentional in research on vocabulary acquisition to mean implicit and explicit learning, respectively (Ma, 2009). However, for Ma herself these terms are slightly distinguishable. Implicit learning entails absence of awareness of what is learnt, but incidental learning often entails awareness on the part of the learner that some learning is actually taking place. By the same token, explicit learning may at times become unintentional where awareness is absent like in understanding how a sentence is structured without consciously committing this information to memory.

Hulstijn (2001) stated that it is easy to establish a clear-cut distinction between the two notions in research about the effects of both ways on learning because it is operationalized in terms of informing or not informing learners that their knowledge of data, such as grammar or vocabulary, will be tested after the intervention. But, the distinction is more difficult to establish in theory. Thus, it is important to look at explicitness and implicitness and try to understand in which ways they differ in vocabulary learning, especially.

1.6.2.1 Implicit Vocabulary Learning

Rodger et al., (1991) oft-quoted definition of implicit learning states that it is the unconscious process of acquiring knowledge. The learner, here, is conscious neither of the process nor of the product; that is, implicit learning lacks awareness of how information is

being learnt and what information is actually learnt (Dekeyser, 2003). In the same line, Ellis (2001) confirmed that implicit learning takes place with no recourse to attentional resources.

Currently, in L1 and L2 pedagogy, incidental vocabulary learning designates learning vocabulary as a by-product of any activity intended to learning listening, reading, grammar or any other subject but not vocabulary in itself (Hulstijn, 2001). For Ma (2009), implicit vocabulary learning is a “natural, effortless and meaning focused” process based on the idea that words can be learnt naturally through repeated exposure to them in different contexts. This is a task possible thanks to input from reading or listening.

Arguments for implicit vocabulary learning are numerous. Nagy, Herman, Anderson and Pearson (1984) noted that every year school children learn about 2,000 new words with no or a very little vocabulary instruction. They concluded that this amount of vocabulary comes from incidental learning from context and thus they advocated the idea that vocabulary is acquired from many sources such as others’ speech, lectures, discussions, television, but above all, reading which “may be the single largest source of vocabulary growth” (p. 4). Nagy et al., even advanced that regular, extensive reading plays the role of effective instruction because it provides all of the latter’s qualities, namely integration, repetition and meaningful use of words.

Nagy et al., (1984) then provided evidence for reading-driven vocabulary learning. They averred that intensive instruction of words is time consuming seeing the number of words learnt via this mode (0.02 words per minute) compared to reading which is far more time efficient since 0.25 words are learnt from context every minute. Hence, claiming that direct instruction of vocabulary is more effective from context is an ‘illusion’, they affirmed.

An additional argument in favor of implicitness in vocabulary learning is put forward by Nagy et al., (1984). They pointed out that sheer vocabulary L2 learners should know every

year is far from being covered via direct instruction in the word-by-word fashion. For them, no direct instruction succeeded to produce autonomous learners who are able to learn words on their own, but reading and learning from written text did. Nagy et al., insisted that to cope with a huge number of words is simply quite impossible for explicit teaching to do whereas, with no doubt, reading-driven learning is very effective for learning thousands of words per year. However, many other researchers have an opposing view whereby explicit teaching is deemed superior to incidental one as shown in the subsequent section.

Nagy et al., (1984) went on arguing that reading has advantages that surely direct instruction does not allow for; readers do not only increase their vocabulary repertoire but also practice different reading sub-skills and gain pleasure. Guessing from context is not limited just to supplying a blurred meaning of the target words; it happens at all degrees of word knowledge, under the form of increments. In this way, with repeated exposure, words partially known become fully known as more and more aspects of word knowledge are reached, and here lies the strength of learning from context according to Nagy and his colleagues.

Brown, Warig and Donkaewbua (2008) subscribed to the theory by Nagy et al., (1984) in consequence of their study on acquiring vocabulary items from reading and listening to stories. They found out that although extensive reading led to meager results in terms of the number of words learnt, it did enhance other aspects of vocabulary knowledge. Subjects were able to notice lexical phrases, collocational and colligational patterns, shades of meaning, and had quick access to data. Brown et al., summed up that the real benefit of input is increasing knowledge of different word aspects even if of a few words only, especially that learning isolated words is gradual and takes place evenly because “word learning often proceeds by small increments” (Nagy et al., 1984, p. 9).

1.6.2.2 Explicit Vocabulary Learning

Ma (2009) described explicit learning as the conscious process of acquiring knowledge, and its focal point is the product or what is learnt. Ellis (2001) specified that explicit learning means memorization of information that takes place consciously. More specifically, intentional vocabulary learning refers to the activity of memorizing vocabulary items (Hulstijn, 2001). It then requires "deliberate mental effort for establishing a link between meaning and form" and relies on the teacher's intervention and the learner's use of VLS to make learning more effective (Ma, 2009: 114). Vadasy and Nelson (2012) claimed that learners are expected to learn about 1.000 more word families yearly in order to build an adequate vocabulary, and to succeed in this endeavor, instruction is indispensable. Ma (2009) explained that intentional work on words can be done through reading plus exercises or by means of direct explanation, vocabulary exercises word cards and booklets. The main criticism to direct instruction is that only a small number of words is learnt through it, and the highest proportion of L2 vocabulary is learnt indirectly mainly during reading acts (Nagy et al., 1984). This criticism is countered by arguments researchers mounted for explicit vocabulary learning.

Explicit vocabulary learning gained attention in research because findings showed that it was a very effective way to learn a great deal of words rapidly and keep them in memory durably (Klapper, 2008). According to many comparative studies of incidental and intentional modes of learning vocabulary, the latter is revealed to be more effective than the former (Nation & Meara, 2002). The findings of these studies showed that deliberate vocabulary learning can lead to gains that far exceed those of incidental learning in terms of learning rates and long-term retention (Nation, 2001), especially in second language settings (Klapper, 2008). This is so because "doing something with a word is more effective than simply coming across it a number of times" (Laufer, 2010, p. 23).

Hulstijn (2001) also questioned the validity of the claim that reading is the main avenue of vocabulary growth. He depicted learning vocabulary incidentally by means of extensive reading as a 'default argument' because meaning focused input is not all what learners need; quality processing is indispensable, too. He believed that growth in vocabulary size does not necessarily come from extensive reading; it may result from a myriad of oral and written tasks which not only introduce students to new vocabulary items but also require them to process them over and over again; that is to say, while dealing with subject related tasks, students are repeatedly exposed to a given array of words, so they find themselves in the obligation to process them deeply in order to handle the task, which results in learning them.

Of the same view is Laufer (2010) who scrupulously plausibly criticized the default hypothesis presumptions by spelling out that there is no guarantee that learners will spot unknown words in a reading text, guess their meanings from context, commit them to memory, and meet them as many times as necessary for the process of memorization to happen. She gained evidence that neither students go automatically through this series of actions nor is noticing alone sufficient for learning a good number of words without being followed by practice. Klapper (2008) backed this view arguing that even though L2 syllabi do expose learners to rich target language (TL) input, there is no warranty that students will pay attention to and pick up this input. Nation (2005) wrote that the default argument is not even supported by research; and he even added that the opposite is true: "The more deliberate decontextualized attention a learner gives a word; the more likely it is to be learnt." (p. 585)

On her part, Ma (2009) confirmed incidental learning to be incapable to provide satisfactory outcomes in vocabulary acquisition for three reasons. Initially, there is a risk to wrongly guess meanings because of the difficulty of the guessing work needed from students. Next, it has low learning rates; lastly, the acquisition is recognition rather than production.

To recall, Hatch and Brown (1995) argued that planned teaching of words takes place because of prior planning and intention on the part of the teacher or the student. In contrast, unplanned teaching is not decided upon beforehand; it occurs when, in the course of a lecture, students come across an unknown word and ask about its meaning, or when the teacher senses a need to clarify the meaning of a word that has been used. Thus, it is on-the-spot intervention.

In compromise, Lems, Miller and Soro (2010) stated that research evidenced that implicit instruction works very well for increasing general language competence while explicit teaching fosters academic language skills (e.g., more formal and technical vocabulary uses). Likewise, authorities in the field of vocabulary agree that planned teaching is powerful in helping learners with the task of learning vocabulary items in an L1, L2 or an FL, and so is unplanned teaching. Experts like Hatch and Brown (1995), Laufer and Nation (2001) and Nation (2005) recommended learning vocabulary both intentionally and incidentally and suggest that any sound instruction should make both modes part of it, especially that learning vocabulary is the most difficult task in the process of learning a language. It is so because of the quantity of words a learner is intended to learn, on the one hand, and the quality of word knowledge, including the many aspects to master, on the other hand.

Be it intentional or unintentional, vocabulary instruction aims at helping learners to learn and memorize words and fight forgetting them. Why do we forget words? How can we fight forgetting? These are important questions that the subsequent sections seek to answer.

1.7 Forgetting Words

Research has demonstrated that students tend to forget 80% of learnt data, including vocabulary, during the 24 hours that follow the first encounter with them; however, forgetting decreases with time and exposure (Thornbury, 2002). This idea goes back in time to the

nineteenth century, exactly to the works of Ebbinghaus (1885). Weiten (2017) presented Ebbinghaus as ‘the father of the psychological study of memory’, for he conducted the first modern systematic study of memory in the years between 1880 and 1885. Weiten added that Ebbinghaus aimed at finding the relationship between retention and time passage, so he took himself as a subject and tried to learn, recall and relearn lists of nonsense syllables, to avoid interference from past knowledge. The result of Ebbinghaus’s early series of experiments was the forgetting curve.

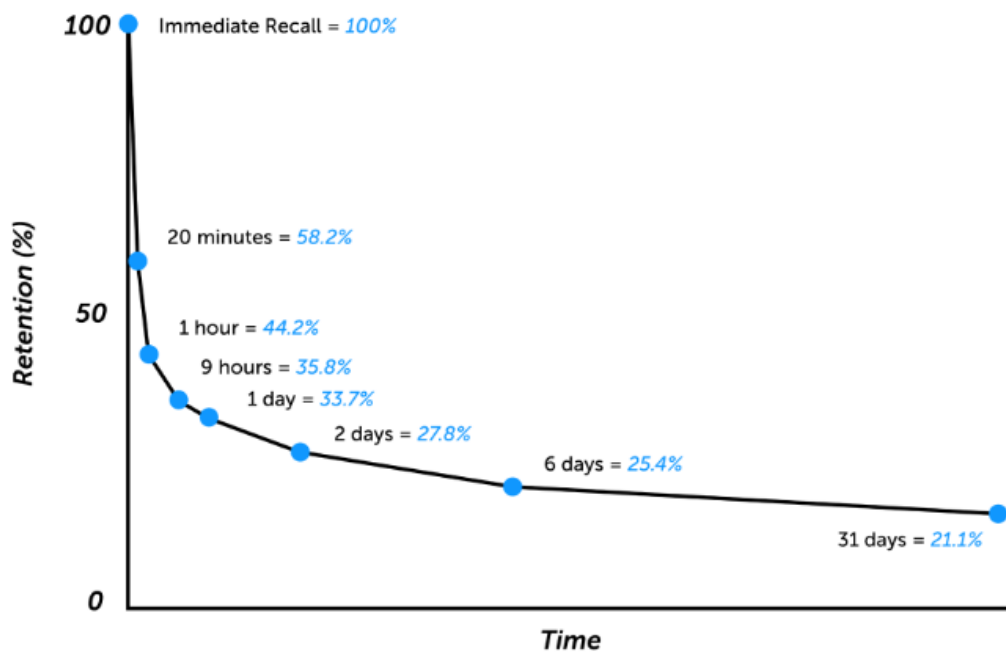
1.7.1 The Forgetting Curve

The forgetting curve is widely known in psychology. It summarizes Ebbinghaus’ findings on how forgetting occurs in humans as time elapses. Ebbinghaus (1885) found that within one third of an hour (20 minutes) from learning the list of words for the first time, more than half of them (58.2%) were remembered and the others (41.8%) were forgotten. After one hour, less words were recalled (44.2%) and more words (55.8%) were not, and after nine hours, only 35.8% of the list items were still kept in memory while 64.2% were lost from it. Within one day (24 hours), 33.7% of the words could resist decay whereas 66.3% could not do so, and within two days (48 hours), 27.8% of the learned words were still learned, and 72.2% went astray. Six days later, 25.4% of the data were still memorized whilst 74.6% fell into forgetting. A month later (31 days, exactly), 21.1% of the information stuck in memory, but 78.9% vanished from it. These findings are converted into the forgetting curve, Figure 1.2.

With repeated re-learning of the words over spaced-out intervals, Ebbinghaus found that more words were subject to remembering and less to forgetting. Indeed, lack of varied and extended rehearsal lies behind forgetting.

Figure 1.2

The Forgetting Curve



From: <https://www.valamis.com/blog/the-definitive-guide-to-microlearning>

1.7.2 Essentials of Fighting Forgetting Words

In the case of vocabulary, “learning is remembering” (Thornbury, 2002, p. 23); that is to say, to learn words is the job of memory. Weiten (2017) clearly described memory different processes: encoding, storage and retrieval which are responsible for any learning. He explained that when a stimulus is met, a memory code of it is formed. This encoded information is kept in memory, and it is recalled later on when needed. These processes are the responsibility of the memory systems: short-term store, working memory and long-term store.

Thornbury (2002) provided an excellent account of how they work in relation to vocabulary learning. He stated that the short-term memory is the memory system responsible for holding some (5 to 7 bits of information) words, for a very short period of time, about seven seconds. This is not enough when it comes to learning vocabulary; therefore, working

memory has to intervene keeping words for a longer time (about 20 seconds) and submitting them to the different operations of meditation, comprehension and learning. The articulatory loop is responsible for these operations and thus for learning a language in general. It consists of sub-vocal repetition of an item till it is learnt and transferred to long-term memory. In fact, aptitude in language learning depends on the loop's capability to keep words in working memory; in other words, the more prolonged the loop; the better is the learner's chance to learn a language. Successful work of the loop leads to shifting words to long term memory. The latter is a kind of 'filing system' where a lot of words can be retained for extended periods of time and retrieved when necessary. Yet, to become permanently stored there, words need to be treated following some essentials, which will be accounted for next.

Many dynamics contribute to combating forgetting and enhancing word learning and retention, namely attention, enriching coding and motivation to remember (Weiten, 2017). Attention is at the heart of the memorization process. It involves conscious focus on a number of items, which positively correlates with word retention. On the contrary, divided attention negatively affects memory. The role of attention is decisive when encoding memories for new information (Weiten, 2017). Like attention, enriching encoding enhances memory for information through processes such as elaboration and visual imagery. Elaboration relates to establishing connections between a stimulus and one's background knowledge, which leads to better memorization. Imagery consists of evoking visual pictures to help oneself remember newly met words. Weiten also stated that research has proved the importance of elaboration and mental imagery in easing memorization and later recall of words. In this regard, Thornbury (2002) also stressed the use of proper strategies such mnemonics and personal organization to facilitate retention, in particular of difficult words. Moreover, motivation to remember is another key to success with learning words. Motivated learners spend more time and effort to memorize words, especially if these are necessary or significant to them. High

motivation plays a vital role in future retrieval; it boosts it (Weiten, 2017). In order to keep motivation high, Nation (2014) proposed to set short term objectives, such as learning twenty new words, and reach them because feeling success in attaining such goals is likely to stimulate further learning.

Thornbury (2002), on his part, listed more factors for improving remembering vocabulary. He mentioned specifically retrieval, depth of word processing, and pacing. Firstly, retrieval, or ‘use’ in Thornbury terms (2002, p. 24), is merely one more form of repetition, and words are better recalled if they are retrieved many times following ‘the retrieval practice effect’. Tasks such as using the word in a sentence serve well this purpose. Indeed, use facilitates the transfer of an item into long-term memory, obeying the ‘use it or lose it’ principle. Next, there is depth of word processing. Word processing can be cognitive or affective. Making decisions is cognitive digesting of information, and cognitively demanding decisions lead to longer retention of words. Emotional judgments are also vital for vocabulary learning to occur. How a learner feels about a word does or does not help him with its storage and recall. When a learner likes a word, he easily learns and memorizes it; the opposite is true, too. Besides, pacing is crucial. Because different learners assimilate information at different rates, it is necessary to provide them with sufficient time and opportunities to process and acquire vocabulary individually, each at his pace.

1.8 Repetition and Vocabulary Learning

Among the essentials of remembering listed above, repetition and spacing are the ones we will turn next to in more detail for the importance researchers give to them for a sound vocabulary instruction and also for their relevance to the current study.

1.8.1 Importance of Repetition for Vocabulary Retention

It is not possible to learn a word after encountering it one time; repetition is indispensable. Schmitt (2010) viewed vocabulary rehearsal as an obligation for learning to occur. Because of the incremental nature of vocabulary learning, repeated exposure to new words increases both the amount and strength of vocabulary knowledge (Nation, 2001). Webb's study (2007) clarified this fact very well. It showed that participants, after two encounters, improved their receptive knowledge of target words spelling, meaning and form, grammatical functions, association and syntax, along with enhanced productive knowledge of spelling specially. By the third repetition, students' receptive knowledge increased on every aspect, and productive the knowledge of association was better. After the seventh repetition, students' scores were slightly better in the receptive tests, but significantly better in the productive tests of all aspects. After ten repetitions, both receptive and productive knowledge witnessed considerable improvement in every measure with statistically significant differences in the aspects of spelling, syntax, grammatical functions and association. Webb (2007) reached two main conclusions. First, repetition obviously assists vocabulary learning both receptively and productively, with receptive preceding productive knowledge. Second, this learning is incremental; with each new repetition, more word aspects are learnt, and to achieve full knowledge of different aspects, more than ten encounters may be necessary.

Nation (2001) classified repetitions essential for remembering word meaning into three types, namely noticing, retrieval and generation. Via the first process, learners' attention is focused on a new word which they feel motivated to learn, through establishing the form-meaning connection. The second process entails recalling the word different times for the sake of memorization. Thirdly, generation, or use of the word, involves both meeting and utilizing the word in new contexts, and this leads learners to strengthen and deepen their knowledge of the word.

These repetitions are effective only if they fulfill a set of conditions. The first requirement is that repetitions should be numerous to ensure retention, starting with five repetitions and moving up (Nation, 2001). The second is that repetitions have to be gradually spaced out. Schmitt (2010) clarified how stating that scheduling recycling should follow the work of the memory, and since most forgetting happens quickly after meeting the word and then becomes slower and minor, review must be held soon after the first exposure and gets farther away with the passage of time. The third condition Schmitt (2010) added is that review should not be restricted to consolidation of the same word knowledge but it should be expanded to enlarging it whereby other features of the word are learned viz., morphology, contextual use, collocational behaviour and the like.

This idea is what Nation (2014) referred to as adding ‘quality attention’ to each exposure, mainly through recall, varied meetings and varied use. In recall, Nation elucidated, learners are presented either with the word form or its meaning and asked to recall the other missing part; this makes the connection form-meaning stronger, resulting in learning. Varied exposure to the word in reading or listening allows for meeting its different forms, meanings and contexts. Learners are more likely to retain words they meet in wide-ranging occasions. By the same token, varied use of words by learners in their speech or writing is essential for retention.

How many repetitions learners need to learn and remember a word is a question that took a great deal of researchers’ time and effort. Nation (2001) admitted that it is no easy task at all to give a specific number of repetitions necessary for remembering new vocabulary. Indeed, the research reviewed by Nation (2001) and Schmitt (2010) demonstrated that different writers suggested different numbers of needed exposures. Some stated that only five are enough while others raise the number to 16 and more encounters. Schmitt (2010) justified this variation in terms of many factors, including the type of the task where the target item is

met, students' level of motivation to learn it and resemblance between L2 and L1 form. Nation (2001) gave other reasons for this. Primarily, there is a lot to know about a word's form, meaning and use. Learners seem to get confused if presented with much information at once; small amount of data supports learning better, which implies repeated exposure. Furthermore, introducing these features to students requires varied instructional methods viz., direct and indirect teaching, self-study and fluency development activities, which once more means that frequent repetitions are desirable, Nation further insisted.

Repetition is deemed important by learners themselves. In their study, Lawson and Hogben (1996) found that repetition strategies were the most frequently used by student participants, for they believed them to be indispensable for learning words, even if they were not the most successful for recalling words. Schmitt's study (1997) confirmed this finding as the overwhelming majority of students (91%) reported that there is no strategy better than repeating words verbally or in writing for learning them by heart. Likewise, Klapper (2008) found that 'shallow' strategies such as rote and list learning can be extremely helpful in the case of less skilled students because they save them the processing of disturbing textual context.

Despite the acknowledged role of drilling and rehearsal in learning lexis, research has shown that the common practice of repeating newly met words massively in rote learning is not effective. In fact, for the best retrieval effect, practice should be distributed i.e. spread over time. This phenomenon is called 'the spacing effect'.

1.8.2 Repetition and the Spacing Effect

Sobel, Cepeda and Kapler (2011, p. 763) defined the spacing effect, also called 'distributed practice effect' or 'lag effect', as "a memory advantage that occurs when learning is distributed across time instead of crammed into a single study session." In other words, learners tend to remember information better if it is presented to them over time and not

massively. Massed information learning happens when “the spacing gap between two or more presentations of the same item is zero (e.g., the same biology term and definition is presented back-to-back with no interruptions in-between)” (Carpenter, Cepeda, Rohrer, Kang & Pashler, 2012, p. 369).

In their review of research on the spacing effect, Carpenter et al., (2012) stated that this topic has been researched extensively and as early as 100 years ago (in Ebbinghaus’ works 1885). They also said that hundreds of consecutive studies described its benefits; that is why, it is “one of the oldest and most reliable findings” (p. 370) of research on learning of different subjects viz., biology, mathematics, history, spelling, reading strategies and even microsurgical skills.

In the case of vocabulary, numerous studies accumulated over time (e.g., Bahrck, Bahrck, Bahrck & Bahrck, 1993; Pavlik & Anderson, 2005; Sobel et al., 2011) demonstrating that spaced learning gains primacy over massed learning. This fact may be best justified in Thornbury’s explanation (2002) that introducing many words together risks to overload the learner’s memory with information, so new items discard old ones, and the latter, as a result, fall into forgetting. There is ample evidence from research on the benefits of the spacing effect.

For instance, in their longitudinal study of 9 years, Bahrck, Bahrck, Bahrck and Bahrck (1993) took themselves as subjects to investigate the acquisition and retention of 300 English-foreign language pairs of words through learning and re-learning them. One subject was the control; the second learned the words in sessions with an interval of 14 days, the third in sessions of 28 days interval and the fourth in sessions of 56 days interval. They were tested for word retention in years 1, 2, 3 and 5 after the experiment has finished. Bahrck and his colleagues found that longer intervals led to slow acquisition but high retention. There were 13 sessions spaced at 56 days and 26 sessions at 14 days, and both yielded similar results in

remembering instructed word pairs. They concluded that both spacing and additional re-learning sessions promote remembering.

For their part, Pavlik and Anderson (2005) carried out research on paralleling and matching spaced and massed learning. In this experiment, participants were taught Japanese–English word pairs, some in a massed series and others in a spaced series fashions. Then they were tested on their retention of the words. The researchers found that practice of vocabulary over widely spaced intervals reduced forgetting and increased retention much better than massed stimulation did. Perhaps, Pavlik and Anderson’s study (2005) most important finding was that decay is slowed down as a result of spaced repetitions, and that the more practice is done, the more the effect of spacing is amplified. Therefore, a combination of repetition and spacing gaps best combats forgetting vocabulary.

The same results were reached by Sobel et al., (2011) after comparing the effects of spaced and massed learning on vocabulary retention. The same 39 children learned new English words using both methods. One time, they were taught vocabulary items in two successive lessons with a break of less than one minute between them. Then they learned more words in two lessons separated by 7 days, this time. After 5 weeks, they were tested for recall. The spaced learning participants gained almost three times more vocabulary than did the participants in the massed learning condition. Thus, Sobel et al., (2011) invited teachers to deliver vocabulary instruction on spaced episodes rather than massed ones.

However, some issues raise here: how long should intervals be? Should they be equal? Or should they become shorter or longer as time goes on?

The answer to these questions, according to Carpenter et al., (2012) have been provided by abundant research on the effects of fixed and expanding spacing lags. Under fixed spacing, information is studied at identical gaps between sessions while under expanded spacing the time intervals become increasingly longer and longer, varying from some seconds

to many weeks. Carpenter et al., found that some studies were in favour of fixed lags and others for expanded ones. However, both types improve learning better than massed presentation. For this reason, researchers constantly advise teachers and material writers to incorporate spacing as an instructional strategy.

In this scope, Ebbinghaus' findings (1885) are valid to date. He found that most forgetting occurs soon after learning then it slows down as time passes; therefore, re-learning should be scheduled on closer intervals (few minutes and hours) since the first time of learning, then later repetition should be set farther apart at larger intervals (days and weeks). After the first exposure, the word is very likely to be quickly forgotten, after the second exposure it takes more time to be forgotten, after the third exposure forgetting occurs only after much more time has passed and so forth. The more spaced repetitions, the slower forgetting.

Murre and Dros (2015), in the course of their replication of Ebbinghaus' experiment, found that a number of replications were done since 1885, namely by Radossawljewitsch (1907) Finkenbinder (1913), and Heller, Mack, and Seitz (1991). Murre and Dros reported that the forgetting curves plotted by Radossawljewitsch (1907) Finkenbinder (1913) had many features in common with Ebbinghaus' curve, and those of Heller, Mack, and Seitz (1991) and their own (2015) were identical.

From 1885 to 2015, experiments revealed that forgetting in humans happens in the same manner: memory losses are fast and great just after learning and become slower and minor as time elapses, and repetition is a good way to reduce them. Maybe this is why Murre and Dros (2015) asserted that Ebbinghaus' experiment is still the most oft-quoted in memory research; his findings are still sound and his method of testing memory for word list learning is still in use in psychology laboratories. And this provides for us a reason why to use the forgetting curve in the current study.

1.9 Vocabulary Testing

A test, simply put by Brown (2004), is a measurement instrument used to evaluate knowledge, competence, or performance of test takers in a given field, including language learning, whereby examinees' overall abilities or specific skills are measured and scored in some way. Testing is necessary for the purposes of placement, diagnostic and achievement (Read, 2000), or also named entrance, progress, exit tests respectively (Baker, 1989). When it comes to assessing vocabulary, the results of placement tests are useful not only for assigning learners to suitable groups but also for deciding about which syllabus content to teach and which materials and work books to select (Read, 2000).

1.9.1 Dimensions of Vocabulary Testing

With regard the specific skill of vocabulary, Read (2000) proposed a three dimensional measure of word knowledge and use whatever the test may be.

1.9.1.1 The Discrete-embedded Dimension

A discrete test consists of items intended to measure a given vocabulary ability in students apart from any other language competence. This would include giving word meanings, deriving words, or guessing from context. Conversely, an 'embedded' test such as writing an essay or reading a passage and answering comprehension questions, evaluate along with vocabulary, a number of other abilities (spelling, writing mechanics, grammar, etc). In these questions, vocabulary is enclosed within a larger scope of language competence assessment. Discreteness, as conceived by Read (2000) does not necessarily show itself in the isolation of words but rather in the isolation of well-defined vocabulary constructs or skills. To explain, in a reading comprehensive test, a multiple choice question (MCQ) question about the meaning of a word or a phrase 'embedded' in the 'whole' passage seems to exemplify the embedded dimension of the test, but in fact it does not; it remains 'discrete' because it focuses

on the individual skill of vocabulary knowledge and not the larger construct of reading comprehension (Read, 2000).

1.9.1.2 The Selective-comprehensive Dimension

The range of vocabulary items a test encompasses makes up its selective-comprehensive dimension. Generally, to craft a vocabulary test, the writer targets a number of words. He may start by choosing isolated words and builds the questions upon them, or he may begin with a selection (text) and then spots some words therein and use them to measure how successful the testees are in knowing or using them (Read, 2000).

By comprehensive vocabulary measures, Read (2000) meant those tests which take into consideration the total of vocabulary words and expressions they contain (e.g., reading or listening input), or they measure (writing or speaking output). To exemplify, in a speaking test, testers check examinees' global use of vocabulary; they are not waiting for specific words or expressions. Likewise, while correcting a candidate composition, scorers find out about how often s/he made use of varied, high frequency, sophisticated, and low frequency words (Read, 2000).

1.9.1.3 Context-independent/Context-dependent Dimension

Presenting lexical items in or out of context is the third dimension of a vocabulary measure. Sometimes testees need to rely on the context to answer the test question; in which case, the item is said to be context dependent (Read, 2000). The cloze passage makes a good illustration: Students draw either on the immediate context (phrase/ sentence) or on the wide context (whole passage) to guess what the missing word is. Context dependency has several degrees. A target word may depend on the sentence, the text, discourse, or even the social context as a whole (Read, 2000).

1.9.2 Importance of Vocabulary Testing

A good language program should include vocabulary assessment because this proved to be useful because (a) it shows that vocabulary is seen as fundamental as other skills in learning a language, (b) in the case of particular student groups such as beginners and ESP classes, who are expected to acquire a lot of words, assessing their vocabulary knowledge is imperative since it is the language element they should really know, and (c) for psychological reasons, vocabulary assessment is salient. Learners tend to give importance only to the language components they are tested. That is to say, students develop positive attitudes toward learning vocabulary if it is assessed. This beneficial wash back effect caused them to care about vocabulary and try to spend energy and time in learning it. The opposite is also true. If students' knowledge of vocabulary is not assessed, harmful wash back effect results making them not eager to learn vocabulary (Schmitt, 2000).

Read (2000), on his part, singled out vocabulary assessment in second language settings as being of paramount importance because words' knowledge needs to be evaluated for teachers to track their students' development and attainment of learning goals; which is why, vocabulary has occupied a large part of language assessment manuals and guide books over decades, Read (2000) noticed. Furthermore, Second Language Acquisition (SLA) research investigators use vocabulary assessment to study how second language learners come to build their vocabulary, develop and use it properly (Read, 2000).

Conclusion

Defining vocabulary has witnessed changes; every time more elements are added because of its multi-dimensional nature. Vocabulary learning can be approached via implicit or explicit ways, yet one thing is certain; it cannot happen after one meeting with the word due to forgetting: The enemy of vocabulary learning. Fortunately, there are ways to fight it, and repeated exposure is fundamental in this regard. Repetition not only combats forgetting

but it also strengthens one's learning of the word. With every exposure, new things about the same word are learnt which facilitates its memorization and use in the future. A great deal of research has been devoted to the role and importance of repetition for learning vocabulary in a foreign language. Results indicate that spaced repetition over long periods of time is better than massed repetition, and expanded intervals are suggested to make the most capital of the spacing effect.

CHAPTER TWO: VOCABULARY FOCUSED INSTRUCTION

Introduction

One prevailing paradigm in vocabulary instruction is articulated around the importance of deep word processing for learning and retention to occur. This processing is possible to achieve by dint of activities designed to study words and practise using them i.e. word-focused activities. It is to the latter that we turn in this chapter. It is deemed wise to place these in their historical, theoretical background, first. Therefore, the chapter opens with a section introducing form-focused instruction in general. Next, it proceeds with detailing vocabulary focused instruction, and it ends with spotlighting word-focused activities.

2.1 Historical Overview

Long (1998) summarized the history of language teaching methodologies into two major axes: ‘focus on forms’ and ‘focus on meaning’; he then put forward a third one: ‘focus on form’, whereby the two previous types are incorporated.

To start from the beginning, Form-Focused Instruction (FFI) was the tradition in early language teaching approaches such as The Grammar Translation Method and Audiolingualism, where primacy was given to grammar over other elements of the language (Ellis, 1997). Such approaches were criticized for their failure to produce fluent speakers of the TL; hence, came the communicative and natural approaches which laid stress on communication and eschewed reference to form, advancing that learners would, presumably, acquire grammar naturally while communicating in the TL, Ellis added.

Unfortunately, this was not the case. Purely communicative instruction yielded learners with advanced levels of fluency but with very poor levels of accuracy (Sheen, 2005; Laufer, 2006) as proved by students’ mediocre performance in grammar accuracy tests (Trandak, 2015) and their poor quality output (Pawlak, 2006). Pawlak (2006) clarified that they had difficulties in understanding vocabulary words and expressions and in using them

precisely, let alone assimilating and employing socio-cultural and pragmatic features of the TL adequately. The reason why De Graaff and Housen (2009) proposed that learners need to be made aware of these morpho-syntactic and socio-pragmatic aspects via explicit instruction.

This may be the most reoccurring shortcoming communicative approaches were criticized for, yet it is not the only one; there are other deficiencies, too. Pawlak (2006) related them to many areas, as recapped next. First of all, the nature of classroom discourse different from real life discourse makes it quite difficult, if not impossible, to recreate learning situations identical to genuine ones (Pawlak, 2006). To exemplify, conversations inside and outside the classroom differ greatly, for classroom interaction is governed by the teacher's role (choosing topics, assigning roles, controlling duration of students' participation and taking most turns). In addition, learners' dependence on L1 is very heavy; it dominates the communicative classroom tasks, so little use of TL is actually done (Pawlak, 2006). The result is an artificial interaction whereby it is not possible to put into action exactly the same naturalistic mental processes of language learning and producing.

Secondly, pure communicative teaching could neither meet all students' characteristics nor satisfy all their needs. Some students' socioeconomic, cognitive, affective and motivational features dismissed communicative teaching in favor of a more explicit one. This is true, Pawlak (2006) illustrated, in the case of adolescent and adult learners who prefer to receive FFI because it eases and speeds up learning for them, or for those who aim at both fluency and accuracy to reach advanced proficiency levels in the spoken and written forms of the TL for academic or professional reasons.

Thirdly, pedagogical considerations also intervene with communicative instruction. Not all language forms lend themselves to task-based teaching. Many structures cannot be easily noticed and covered since they need a myriad of contexts and materials, which may not be available to the teacher. Necessary exposure to all language patterns is both time

consuming and labor demanding, so it is not possible but through FFI where students can attend to a great deal of forms in reasonable time by means of structural syllabi (Pawlak, 2006).

Fourthly, with regard contextual factors, Pawlak maintained that communicative learning seems not to fit the FL context because of the limited teaching time (few hours per week), little to no exposure to the TL outside the classroom, teachers' level in the TL, and sociocultural restrictions (e.g., students' unwillingness to talk about themselves, uncover personal information or even participate in fear of making mistakes).

Pawlak (2006) concluded that such limitations led to a renewed interest in direct ways of language teaching i.e, FFI. However, this revival should not result in bringing up outmoded ways typical of discrete grammar points instruction; hence, emerged the need for a combination of both meaning-centered and form-based approaches (Fotos, 1998). An idea that Long stressed in his works (1988, 1991, 1998). Fotos (1998) asserted that the integration of grammar and meaning is not new; rather, it has been the fashion in foreign language classrooms for many years. Nonetheless, it was Long's seminal articles that triggered pervasive research on possible ways to incorporate both form and communication in the same teaching act so that learners can grow into fluent and at the same time accurate users of the language (Fotos, 1998).

In a nutshell, to overcome the problems one approach or the other posed, FFI acts as a midway solution between purely communicative and strictly formal approaches. Now that over-viewing the historical circumstances that created a dire need for a return to FFI is over, we shall proceed to consider FFI in greater detail.

2.2 Form-Focused Instruction Defined

A fuzzi of terms is used in the literature to refer to FFI. Pawlak (2006) listed many of them, namely ‘traditional language teaching’, ‘analytical teaching’, ‘instructed second language acquisition’, ‘instructed second language learning’, ‘formal instruction’ and ‘grammar teaching’. He argues that these labels created a great deal of confusion, especially that they sometimes are not used to mean exactly the same thing. Terminological confusion was compounded by the fact that FFI was perceived differently through time. First, it was viewed as a teaching method, then as a sort of technique and finally as a type of pedagogical activities to expose students to given structures (Trandak, 2015).

All in all, FFI is a term used to designate any instructional practice where learners are induced to attend to formal aspects of the language, in a contextualized or decontextualized, planned or incidental, implicit or explicit way (Long, 1998; Ellis et al., 2001; Williams, 2005; Pawlak, 2006; De Graaff & Housen, 2009). As such, FFI involves both traditional (synthetic, structural, notional) as well as more recent communicative (task-based, meaning-centered) ways of teaching a foreign language (Laufer & Girsai, 2008). In this context, Pawlak (2006) defines FFI as "the weak variance of task-based learning"; ‘weak’ because it is not exclusively meaning-focused; it does include ‘focus on form’, too. Here lies the strength of FFI, for it neither supports fluency over accuracy nor the opposite; indeed, both are considered.

Ellis (1997) described how FFI works. Learners are introduced to a target structure, uptake it via conscious noticing and produce it. Awareness-raising is stressed by Ellis as being a key feature of FFI. It is worth mentioning that ‘form’, in ‘form-focused instruction’, originally related to morpho-syntactic patterns (Pawlak, 2006). Later on, it has been expanded to entail a range of other language subsystems and features viz., phonology, semantics, orthography, graphology, lexis, sociolinguistics and pragmatics (Ellis et al., 2002; De Graaff

& Housen, 2009). Likewise, grammatical ‘form’ itself is not completely deprived of ‘meaning’ because when focusing on form, one may refer to the function or meaning this form has; that is, form-meaning mapping (Ellis et al., 2001). To illustrate, when studying how to derive adjectives from some verbs like in care + ful = careful, students are informed that ‘ful’ carries positive meaning: *with* care. Similarly, they are made aware that in care + less = careless, ‘less’ signals negative meaning: *without* care. For a full comprehension of FFI, it is inevitable to outline its types.

2.3 Types of Form-focused Instruction

FFI is divided into two types: Focus on Form (FonF) and Focus on Forms (FonFs with lower-case ‘s’, or sometimes FonFS with upper-case ‘S’, with consideration for practicality, the first spelling is used in this thesis. Each kind is further divided into sub-classes; these are elaborated more below.

2.3.1 Focus on Form Instruction

The term ‘Focus on Form’ was coined by Long (1991) to name the type of instruction where attention swings from meaning to form and quickly back again to meaning; the shift is triggered by a problem students face in comprehending or producing the language, and it is incidental and brief. Long asserted that reference is only made to linguistic forms which are indispensable for accomplishing the communicative task; otherwise, meaning conveyance lies at the center of FonF instruction. For this reason, Spada and Lightbown (2008) preferred to term it ‘integrated FFI’.

In FonF, the lessons are organized around a content area such as history, algebra, mechanical engineering, etc. where communication is prominent, yet attention is explicitly given to language aspects whenever necessary (Long, 1991). For instance, during a listening, speaking or reading activity, learners' attentional focus is shifted from transmitting a message to studying a particular formal element such as how a word is spelled, pronounced or

interpreted in context. This diversion is very short and serves the communicative purpose of the task (Williams, 2005). Actually, the aspect treated is one causing communication not form problems (Sheen, 2005). Focus on form is one of two types: planned or incidental.

2.3.1.1 Planned Focus on Form Instruction

Lyster (2007) claimed that FonF is planned, or proactive, when the teacher ahead of the lesson selects given linguistic forms to teach and devises meaning-based tasks to deal with the targeted structure in a communicative fashion. Learners are not asked to learn the form under study; they just use it as a part of the language needed to perform the task (Lyster, 2007). Such a task can be about the 's' of the plural (form) but taught via describing pictures figuring sets of objects or people in an information gap activity (meaning).

Planned/proactive focus on form is based on interaction where message is central, and form is peripheral. It proved to be successful in aiding learners to learn and use forms that would not be noticed or used if not instructed; it ensues that awareness-raising to and practicing of language forms make the strong points of this type of intervention (Lyster, 2007).

2.3.1.2 Incidental Focus on Form Instruction

Unlike planned FonF, incidental FonF is not based on pre-selection of structures targeted for teaching (Ellis et al., 2002). It is accidental and relies on unfocused tasks intended to make learners produce general samples, not particular patterns, of the target language communicatively (Ellis et al., 2002). This happens as follows. While students are concerned with meaning and interaction, the teacher notices that they make persistent, corrigible errors, so he draws their attention to these mistakes, and quickly they resume the lesson at the point where FonF occurred (Long 1991). To clarify, in an opinion gap task, a key expression is spotlighted and addressed succinctly and extensively because of its saliency for the performance of the task (Ellis et al., 2002). For Lyster (2007), this type of instruction is

‘reactive’ i.e. it comes spontaneously in reaction to learners’ mistakes and takes the form of corrective feedback mainly. He adds that it is very efficient for helping students to make more adequate and precise lexical choices.

FonF can also be ‘preemptive’; in which case, attention is given to form because of a perceived problem in students’ knowledge (Ellis et al., 2001). For instance, the teacher may ask students about the meaning, synonym, or opposite of a given vocabulary item (Focus on Form) thinking that they may not know it (perceived gap in students’ knowledge) before they embark in a class discussion about a topic where the word attended to is salient (meaning focused activity).

In summary, Long (1991) pointed out that FL learning comprises two tenets: the eagerness for using the TL communicatively in a native like manner and the need for focusing on specific linguistic aspects (be they phonological, lexical, grammatical, or notional) necessary for learning the language. FonF, he asserted, came to make it possible to join the two poles, like a bridge. It does not only fit a variety of teaching approaches (the old Grammar Translation and Audiolingualism and the more recent communicative and natural approaches) and syllabus types (structural, notional, functional) but also concurs different program kinds (subversion, immersion, sheltered subject matter) and classroom activities and practices (display questions, repetition, error correction). Therefore, Long (1991) recommended it to be an integral constituent of FL instructional programs, for it speeds up learning and heightens ultimate attainment.

2.3.2 Focus on Forms Instruction

Focus on Forms (FonFs) is described as ‘the strong version’ of FFI (Fotos, 1998), and is also known as the ‘isolated FFI’ (Spada & Lightbown, 2008). As its name suggests, ‘focus’ in ‘Focus on Forms Instruction’ is put over the form intended for teaching. According to Long (1991, 1998), FonFs relates to the traditional ways of teaching one language item at a time by

presenting it in examples for students to follow. Learners are supposed to accumulate and synthesize such elements and then use them in real communication (Long, 1991). FonFs characterizes synthetic syllabi and is implemented through classroom practices such as explicit rule explanation, model repetition and error correction. In these practices authentic communication is almost completely absent (Long, 1998).

In FonF instruction, language is considered as a means of communication and learners as real users of the language whereas FonFs proponents perceive language as an object of study which should be broken down into separate components to be taught and learned incrementally, and they treat learners as students who have to be made aware of the objective of the lesson (learning a given structure) right from the beginning (Trandek, 2015).

A typical FonFs lesson follows the PPP procedure (Presentation-Practice-Production). In the P step, students are introduced to a specific linguistic element, a grammar point, a language function or a pronunciation matter. In the second P phase, they practice this aspect in ample guided exercises. In the third P stage, they are encouraged to produce it freely in production activities (Ellis et al., 2002).

Sheen rooted (2002) FonFs in skill-learning theory which holds that cognitive processes are involved in L2 and FL learning, in a way similar to learning any other skill. They should pass through three phases:

- a. understanding the element studied via thorough explanation even in L1 if needed,
- b. practicing thoroughly the knowledge gathered in the previous stage thanks to a plethora of relevant activities, and
- c. using the language accurately and automatically in more opportunities and exercises.

Focus on Forms divisions and sub-divisions are numerous: explicit, deductive explicit, inductive explicit, implicit, production-based, and input-based.

2.3.2.1 Explicit Focus on Forms Instruction

This type of instruction aims at developing explicit knowledge about language patterns in students by means of deduction or induction (Trandek, 2015).

Deductive explicit focus on forms in Thornbury's terminology (1999) is called 'rule-driven learning'. A lesson based on deduction, follows more or less the same PPP phases discussed above (Trandek, 2015). Deductive instruction is praised for (a) the abundant practice opportunities which take almost all class time, (b) the methodically well organized lessons (PPP phases) which are easy to follow as they give students a sense of order and stability, (c) the consideration and respect of adult learners' maturity and intelligence (Trandek, 2015). Nonetheless, it has been criticized, first, for being boring and demotivating since it misses the ingredient of challenge and, second, for lacking the holistic view of language which may make learners fail to see how the discrete elements they study can work together in authentic language use (Trandek, 2015). Thornbury (1999: 30) added that this method suffers from the dominant role of the teacher driving learners to become passive and non autonomous.

Explicit focus on forms may also be inductive. Thornbury (1999) labeled this 'discovery learning', and Pawlak (2006) 'indirect instruction'. Induction is the reasoning method where generalization of a rule is reached after observation of it in many specific occurrences; grammar is the area where inductive teaching is obvious the most (Thornbury, 1999). For instance, after listening to a story full of verbs in the past simple tense, students are asked to articulate the general rule about how it is formed when the verb is regular and to detect changes in irregular verbs.

Even though inductive instruction is motivating, has durable effects in terms of retention and use and enables students to grow into autonomous learners who work rules out for themselves (Pawlak, 2006), it has received some criticism. It is said to be a long process of

figuring out target rules instead of actually practicing them, and there is no guarantee that learners will reach the rules (Thornbury, 1999). Moreover, it can be misleading for learners who may think that rule learning is the purpose of language learning as well as frustrating for learners who are not analytical and prefer straightforward explanation of the rules, Thornbury added.

2.3.2.2 Implicit Focus on Forms Instruction

Under this approach, learners do attend to language aspects but without being aware of it; they do it unconsciously (Trandek, 2015). Implicit FonFs can be based either on input or on production.

With structured input, learners are urged to discern the target language point and grasp its meaning and function following how it is employed in a variety of cautiously chosen instances of use (Trandak, 2015). Then they try to do some practice exercises such as matching sentences and pictures or sentences and L1 equivalent translations. These activities are carefully designed to be void of any production (Trandek, 2015). Ellis (1997) pinpointed that input-based instruction may be effective because of the element of noticing it includes and which breeds learning.

On the other hand, production-based implicit FonFs is a pedagogical component of FFI via which learners are induced to produce the addressed linguistic aspect by means of a battery of activities including gap filling, substitution, reformulation and even games (Ellis, 1997). As such, students are aware that the objective of the lesson is to master the use of the language aspect in question by producing it repeatedly (Trandek, 2015).

2.4 Focus on Form versus Focus on Forms

Comparing FonF and FonFs, Norris and Ortega (2000: 438) state that FonF instruction integrates meaning and form in different ways:

- a. using activities requiring learners to engage with meaning before form,

- b. making sure that instruction remains unintrusive,
- c. registering learners use of noticing or picking up of target forms,
- d. pre-selecting points for instruction on the basis of learners' needs, and
- e. taking into account inter-language limitations when selecting items for instruction.

However, FonFs excludes some of the criteria abovementioned and adds others. Meaning-form integration is not salient in FonFs; it emphasizes

- a. the pre-selection of points for instruction in view of learners' needs,
- b. the shift of learners' attentional focus towards specific language points and
- c. consideration of inter-language restrictions when deciding on which items to teach.

FonF and FonFs converge on the conditions for selecting linguistic features to instruct and diverge on the way to instruct them.

It is worth mentioning that writers used these two terms along with FFI ambiguously and confusingly. May be the most bewildering ones for the researcher were Williams' (2005) use of FonF as an umbrella term covering any teaching which involves grammar i.e. FonFs included, a case in which FonF equals FFI as a whole. Or, on the contrary, Lyster's (2007) use of FFI to refer to FonF (which is just one type of FFI). One application of these theoretical issues is found in vocabulary instruction. So, it is logical that we should now devote a section to vocabulary form-focused instruction.

2.5 Vocabulary Form-focused Instruction

Even though Long (1991) in his early article advanced that FFI is associated with the teaching of grammar since 'form' equals 'grammar', he later on (1996) made the call to implement it in vocabulary instruction, and he gave an example of how 'form' can be 'lexis'. However, it was Laufer (2003, 2005, 2006, 2008, 2010) who applied FFI to vocabulary. She claimed it to be much more effective than reading-driven vocabulary learning for L2 learners. She strongly recommends it and named it 'word-focused instruction' (2010).

According to Laufer (2010), word-focused instruction, just like FFI, can take the form of FonF or FonFs, and it can be either incidental or intentional. Consequently, she divides word-focused instruction into incidental FonF, incidental FonFs and intentional FonFs.

2.5.1 Incidental Focus on Form Vocabulary Instruction

Vocabulary FonF instruction refers to the act of “attending to lexical items (single words and multi-word units) within a communicative task environment when these lexical items are necessary for the completion of a communicative or an authentic language task” (Laufer, 2010: 23). Following this definition, it can be deduced that vocabulary FonF has three aspects:

- a. The vocabulary item attended to can be one word or a group of words such as a phrase, a fixed expression or an idiom.
- b. The vocabulary item is attended to while performing an interactive task whose aim is essentially communication.
- c. The vocabulary item is attended to because it is indispensable for accomplishing the task to be done.

Laufer (2010) gave the example of looking up words in a dictionary (i.e. attending to words) to complete a reading comprehension or a class discussion task (i.e. communicative task). Following these characteristics, Laufer deemed that vocabulary FonF can only be incidental; it cannot be intentional, and it comes to fulfill a need or fix a comprehension or a communication breakdown.

2.5.2 Incidental Focus on Forms Vocabulary Instruction

When connected with vocabulary, FonFs is generally defined as the instruction of discrete lexical items, be they single words or chunks and where no authentic communication is involved (Laufer, 2010). Put in another way focus is on the words themselves not on communication; they are the end not the means. FonFs becomes incidental when students

learn words they dealt with in given vocabulary exercises permanently without having the intention to do so (Laufer, 2010). For instance, learning words as a result of hearing them in a movie remains incidental as long as learners do not spend any effort to commit them to memory.

It is noteworthy that Laufer (2010) conceptualized accidentalness in a different way from other researchers. While many of the latter such as Nagy, Herman, Anderson and Pearson (1984), Hulstijn (2001) defined incidental vocabulary learning as the byproduct of performing other activities where no attention is given to learning words or expressions per se, Laufer (2010) maintained that students acquire lexical items *incidentally* when they *attend to* them but do not intend to memorize them because of an upcoming test or a personal will to. That is to say, the difference lies in the presence or absence of the learners' attention or will to keep words in memory. If there is any intention of memorization, learning is intentional; otherwise, it is incidental.

Therefore, vocabulary items are the subject of study under incidental FonFs instruction, and learning them, for Laufer (2010), is incidental. For example, the task of matching words and their definitions may lead learners to memorize some of these words, yet Laufer considered this learning incidental. She stressed the fact that decontextualization on its right does not mean intentionality; determination to memorize words for future recall and use does.

2.5.3 Intentional Focus on Forms Vocabulary Instruction

Vocabulary items are learned intentionally if there is a prior intention on the part of the learner to commit them to memory (Laufer, 2010). She cited two situations for intentional FonFs. The first takes the form of an outside obligation (a teacher, an exam, etc.) requiring students to internalize vocabulary items because they will be tested on them. The second is a

self imposed choice; the learners place on themselves the duty of learning words or expressions by heart just to expand their vocabulary repertoire. By way of illustration, spending time and effort to learn by heart words from bilingual lists including L2 words, their meanings, and L1 equivalents is a case in point of intentional FonFs vocabulary learning, regardless of the reason behind (either because you were asked by your teacher or because yourself decided to do so voluntarily).

2.6 The Effectiveness of Vocabulary Form-focused Instruction

Many researchers agreed that FFI has positive effects on L2 development. Whatever form is studied (grammar, phonology, lexis, etc.), FFI does make a difference; it positively affects acquisition processes, speed and proficiency (Long, 1988). It promotes accuracy, and assists students in getting rid of errors they commit repeatedly (Ellis, 1997). Likewise, research reviewed by Pawlak (2006) led him to assert with confidence that FFI is useful for learning a TL because of its acquisition rate, ultimate level of attainment (which refers to the target language aspects that are the least frequent and the most difficult to grasp and use), durability of results and facilitative impact on learning.

Norris and Ortega (2000) reached the same conclusions after an extensive meta-analysis of research on L2 acquisition. They reviewed 77 experimental and quasi-experimental studies conducted over two decades, from 1980 to 1998. The main results of this meta-analysis are reported below.

- a. Focused instruction is far more effective than non-focused instruction; it leads to considerable gains.
- b. Explicit instruction outweighs implicit instruction significantly.
- c. Focused instruction has long lasting effects.
- d. FonF and FonFs are equally effective and result in large gains in learning the features taught.

Perhaps, most importantly for the present context of research, effectiveness of FFI is stressed in the case of FL learners. Trandek (2015) justified her interest in FFI by stating that it may be 'the most effective way' to teach FL learners, improve their quality of teaching and help at-risk students. Fotos (1998) strongly recommended the use of form-focused tasks implicitly or explicitly because they are particularly suitable for EFL contexts. She suggested placing focused tasks before and after communicative ones to increase learners' awareness of how the TL works and how to put its structures into practice in actual communication.

In the same vein, Spada and Lightbown (2008) assessed both integrated FonF and isolated FonFs to be necessary components of a successful FL instruction, especially if matched with the learning environment, with the language points to be instructed and above all with the learners' characteristics. The latter is also stressed by Ellis et al., (2001) who insisted that form-focused instructional syllabus must be harmonized with learners' built-in syllabus. This match consists of respecting the learning sequence and the developmental stage of the student when presenting him with a given language feature, to make sure that he is apt to acquire it (Ellis et al., 2001).

These advantages are accentuated more in the field of vocabulary teaching and learning. After surveying many studies on vocabulary FFI, Laufer (2010) concluded that this type of instruction had the potential to assist learners in reaching much larger gains in learning the instructed vocabulary when compared to the reading-driven method. In the case of incidental FonF, Laufer (2010) found that activities such as dictionary use, meaning negotiation and glosses studying yielded better results than meeting words in input alone.

After analyzing how FonF operates in vocabulary instruction, Laufer (2000) provided two reasons why it is effective. First, the words attended to are words necessary for the completion of a task that is why they require learners' focus on them. This attention results in an improved retention. Second, challenging tasks which set learners to attend to a great deal

of lexical items help them memorize many of the words dealt with. The more demanding the task is; the more vocabulary items are learned. Accordingly, Laufer (2000) posited that learners can benefit from FonF activities in learning unknown vocabulary.

As far as incidental FonFs is concerned, many studies comparing reading alone and FonFs activities showed that the latter led to highly improved outcomes in unexpected tests (Laufer, 2010). The same is true for computer-assisted FonFs activities. Word banks, online dictionaries, hypertexts, concordances and cloze passages all can bring about better scores in word retention when compared to exposure to words in reading texts, Laufer added. By the same token, mobile phones can replace computers in this regards.

With reference to intentional FonFs, Laufer (2010) noticed that only very few studies addressed this issue directly i.e. pure FonFs activities were not used as an independent variable on their own. Instead, they were dealt with mainly after a previous incidental learning. Yet, in comparison to vocabulary-through-reading input method of learning words, different types of word-focused activities proved to be more effective as they resulted in superior outcomes in word learning and retention. Hence, Laufer (2005) eagerly defended FonFs vocabulary instruction and opposed the necessity to attend to form within a communicative task exclusively. She believed that vocabulary acquisition is not possible through comprehensible input only and that the need for both FonF and FonFs is undeniable.

Laufer justified the pertinence of FonFs to teaching vocabulary in the light of the nature of vocabulary knowledge and actual use, including vocabulary size and use, knowledge types and depth, learning burden and strategic competence. Following is an account of each factor in isolation, as discussed by Laufer (2005):

a. Vocabulary size: Learners need to acquire a large battery of words. If teachers rely solely on FonF and exposure, they need to engage learners in a great deal of reading and listening to materials where the same target words are found, within a short period of time to guarantee

retention. But this is simply not possible because vocabulary items change with each lesson and the same words may not be encountered again only after a long period of time; thus, Laufer argued that there must be some planned repetition via activities which are not inevitably communicative. Instead, the words themselves are the focus of instruction i.e. objects of learning. This is FonFs. Such study of isolated words needs not to be in the classroom only, for it can be personalized; each student attends to words on his own at home using word cards, computer vocabulary activities, or just by arranging them in electronic folders on his computer.

b. Vocabulary use: According to many studies on training students on word use, FonFs activities proved their effectiveness in improving learners' accessibility and use of low frequency words, phrasal verbs and idioms. Practising words discretely in FonFs activities such as sentence completion, translation and repeated faster reading promoted fluency in students. Not only were they able to bring their dormant vocabulary into life but also accessed it easily and fast.

c. Passive and active knowledge: Active knowledge is harder to attain than passive knowledge; it needs much more practice. The latter can be offered via FonFs exercises which make words not just tools of interaction but also the central point of study. Thanks to frequent FonFs activities, unfamiliar words are permanently committed to memory and passive vocabulary may even become active and thus can be retrieved whenever required.

d. Depth of knowledge: In FonF instruction, teachers and learners have to wait for occasions of word reoccurrence as this happens in the course of the syllabus. A repetition that may happen, if ever, a long time later. This fact about FonF makes it unsuccessful in developing learners' vocabulary depth of knowledge. In contrast, FonFs provides ample opportunities for dealing with the same words again and again, each time knowing more about their different meanings, grammatical characteristics, collocational behavior, constraints on use, etc. Laufer

(2005) asserted that it is one of FonFs attributes to offer rich instruction of words which plays an important role in developing the depth dimension of vocabulary knowledge.

e. Learning burden of words: Learners may face enormous difficulties while learning certain words such as collocations and synforms; FonFs makes an ideal means to solve this problem. Laufer collected evidence from several studies that FonFs is more efficient than FonF for alleviating vocabulary learning burden and relieving learners of it. It allows for contrastive analysis between L1 and L2, makes it possible to establish distinctions between L2 synforms and gives room for full attention to learn collocations.

f. Strategic competence: The best example showing the saliency of FonFs activities are dictionary use and guessing word meaning from context; in both tasks, learners are attending to individual words using strategies to find or figure out what words mean. This means fostering strategic competence in students.

While Laufer (2005) established for the need and effectiveness of vocabulary FFI, she did not completely deny the importance of meaning focused instruction. Rather, she praised it for being the context where learners initially encounter words and subsequently deepen their knowledge of them, internalize and make them part of their active vocabulary.

2.7 Selection Criteria of Word-focused Activities

Laufer and Hulstijn (2001) proposed a construct of three components (need, search and evaluation) to determine the level of involvement a task for learning vocabulary incidentally must have to be effective. It is a motivational and cognitive prediction and explanation of how well learners acquire new words. Laufer and Hulstijn defined each ingredient as follows.

Need refers to the motivational part of engagement in a task. It concerns how much learners want to achieve in a particular language activity through meeting its requirements and answering it correctly. When completing a reading, writing, or speaking task learners may

feel the *need* to use a given word. This need can be either moderate or strong. In case someone else rather than the learner is the source of this need, then it is moderate, but it becomes strong if the learner himself is intrinsically motivated to perform the task. A good example of the former would be the need to use a given word in response to the teacher's request. The need to use a word you do not know to express an idea necessary in a journal entry you are writing is an illustration of the latter.

Search is one cognitive aspect of involvement. It relates to seeking the meaning of an unfamiliar word or searching for an L2 word that labels a certain notion in L1. To this end, one can check the dictionary or ask someone else who is better informed such as a teacher, an expert, etc.

c. Evaluation: Another cognitive dimension of involvement is evaluation. It entails making comparisons and reaching decisions about the most suitable word to select for the clearest expression possible of one's ideas. Simply put, when the learner wants to convey a particular message, he has to compare the many words that may express the idea, and decide on the best ones to use them. Similarly, if any L2 word has multiple L1 equivalents, the learner has to pick the most appropriate word to express himself successfully.

In this way, evaluation is a decision making process whereby the learner chooses, among other possible options, the word that best fits the context. Like need, evaluation can be moderate or strong. It is moderate when selecting among different words or shades of meaning the word most appropriate for idea expression, or it is strong if the use of the word involves taking care of its collocational behavior.

Laufer and Hulstijn (2001) defined involvement load as the presence or absence of the involvement aspects of Need, Search and Evaluation. They asserted that any task engenders one or more of these three dimensions for each word dealt with. As an example, Laufer and Hulstijn indicated that, in a writing task, students have to find an L2 word naming an L1

concept (need), search for it in a bilingual dictionary (search) and opt for the right word to express the intended meaning exactly (evaluation). Such a task is said to have high-involvement load. Now, to accomplish the same task, learners are provided with a list of L1 words with their equivalents in L2; here, the search and evaluation dimensions are not evoked; only need is, so the task is described as having low-involvement load (Laufer and Hulstijn, 2001). Material designers and teachers alike can create varied activities targeting varied vocabulary learning objectives by manipulating the amounts of these three ingredients.

Task involvement load hypothesis connects very closely with Craik and Lockhart's (1972) depth of processing hypothesis, discussed below.

2.8 Levels of Processing

The notion of levels of processing is pioneered by Craik and Lockhart (1972). They described it as being a classification of successive levels of information processing: sensory analysis, pattern recognition and stimulus elaboration. At initial stages, a new datum, be it physical or sensory, is analyzed through visual, auditory, tactile, gustatory, or olfactory channels. Next, this stimulus is associated with prior information in the mind so that it is recognized and assigned meaning. Finally, it can be processed deeper by semantic elaboration and enrichment. This process results in the memory trace; which does not last unless the material is deeply analyzed. The deeper analysis is undertaken; the stronger the trace is, and the longer memorization lasts, as economically put by Craik and Lockhart "retention is a function of depth" (p.676).

Craik and Lockhart (1972) stated that memory operates in relation to levels of processing, and both can be compared to a continuum of analysis. In its first end, there is brief, temporary data resulting from sensory analyses, and at the other end sturdy, permanent data ensuing from semantic-associative analyses. To exemplify, a word is recognized or

identified, then associated with past experiences we have with the word and after that more semantically and cognitively analyzed.

Craik and Lockhart (1972) called attention to the fact that a task dictates the level of processing learners use to handle data. Therefore, different activities lead to different processing levels and thus to different degrees of recall. If information is superficially processed, it is very likely to be quickly forgotten; on the contrary, it becomes long lasting if profoundly analyzed, because “persistence is a function of processing level” (p. 679).

2.9 Types of Word-focused Activities

Laufer (2001) argued that the main source of L1 vocabulary can be reading, but this cannot be true for L2 learners; reading alone generates very few gains. She said “Paying attention to a few words may result in remembering them. An overflow of unfamiliar vocabulary, on the other hand, may have the opposite effect.” (2001, p. 46). She also brought attention to the necessity to distinguish between reading alone and reading with activities such as dictionary use or taking notes of words on a booklet, cards, or lists. Laufer (2001) suggested that word-focused activities should be employed to enlarge students’ vocabulary, especially that a body of evidence has pointed to their superiority over reading in this regard. On their part, Craik and Lockhart (1972) advocated the idea that utilizing the type of tasks which cause retention should be given the importance it deserves.

In order to help learners gain knowledge of vocabulary, teachers have the possibility to engage them in a variety of effective activities such as matching items, MCQs, gap fillings and composition, among others. Descriptions of these activities and more detailed discussions of their usefulness for learning vocabulary are provided in what follows.

It should be emphasized that in this research, task and activity are used in the same way to mean “a piece of work that has to be done” (Laufer, 2001, p. 46).

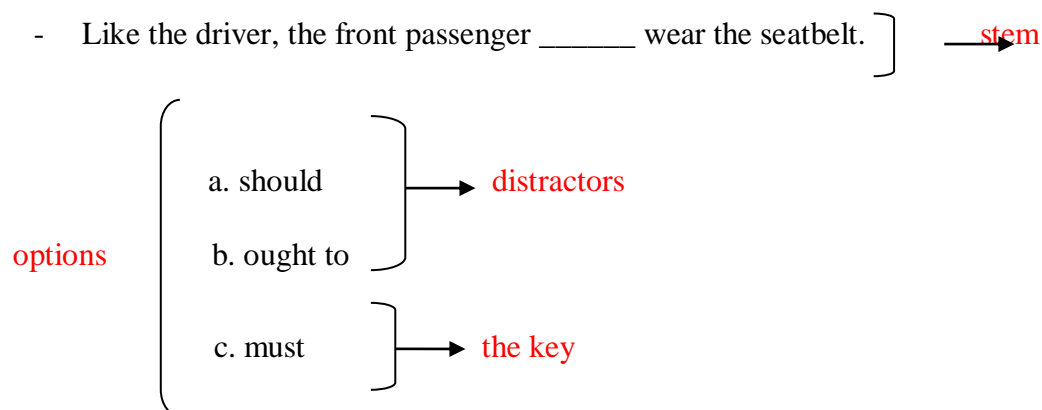
2.9.1 Multiple-choice Questions

MCQs are very common when it comes to vocabulary instruction. The basic format of an MC item comprises one stem and alternatives or options, which consist of the key answer along with wrong answers or ‘distractors’ to divert learners from the key (Hughes, 2003). These parts are indicated in the example below.

Question: Circle the best option a, b, or c to complete the sentence.

- Like the driver, the front passenger _____ wear the seatbelt.
 - a- should
 - b- ought to
 - c- must

where the parts are



After a careful reading of both the stem and the options, learners have to select the right answer relying on the cues provided (Fulcher & Davidson, 2007). Read (2000) noticed that MCQs are used both in first and second language settings. Words can be presented in a sentence or in isolation, especially for second language learners as they are used to memorize isolated words from word lists so that the largest possible number of words is included, he added. MCQs are also recommended for word recognition and comprehension because they are easy to write with the abundance of alternative options in a language (Hughes, 2003), be it in a receptive or productive fashion (Heaton, 1990).

However, the truthfulness of this idea is questioned by Heaton (1990) who found that constructing a good MCQ is not easy, for selecting both the items and the distractors can be a very difficult and long process. Although a myriad of options is available, the question is, Heaton wondered, which ones to choose? The question did not remain without an answer. Heaton (1990) himself provided some guidelines. In a well written MC item, the distractors should seem as correct as the key to poor students. They should neither be too easy so that any student knows they are wrong nor too difficult to understand; rather, they have to match students' level of proficiency. There should be only one right answer not more. Likewise, much importance should be given to the context, technically the stem, where the target word appears; it has to be as unambiguous as possible.

Kargozari and Ghaemi (2011) believed that multiple choice activities can be used as vocabulary assignments for rehearsal and review purposes in ESL and EFL classrooms, for they enable learners to memorize words longer. The two researchers argued that when making choices, learners spent all the time in processing the target words only; not like in sentence filling or writing where they have to think of other aspects such as grammar. This focus in word meaning MCQs allow for ends in vocabulary retention.

2.9.2 Matching Items

The elementary layout of matching tasks consists of two columns: the first one includes premises and the second their corresponding options (either synonyms, definitions, or antonyms); students, then, have to match the right pairs together (Coombe, 2011).

A Matching items would look like this:

Question: Match words and their synonyms.

	a- honest
1-Delighted	b- upset

2-Brave	c- courageous
3-Delusive	d- happy
4-Truthful	e- unhappy
	f- deceiving

Read (2000) advised to include more options than premises in order to make sure that the learner does not end in a situation where he gets the last answer correct by chance. Put differently, if there were four words and four synonyms, he may know three right answers only; after eliminating them, just one pair remains and thus he gets a correct answer done for him without really figuring it out on his own. Scrivener (2005) worthily noted that matching tasks can also involve the use of pictures, labels, sets or lists, for the elements in the premises and options columns should not always be words, half sentences, or full sentences.

Designing matching activities is not trouble free, according to Read (2000). One difficulty task designers may experience relates to writing short, unambiguous and successful definitions for all the words; another relates to their presentation of the words in isolation (Read, 2000). On the other side, Coombe (2011) put in the best light two advantages of matching questions: they can be used to produce more alternatives than MCQs do, and they are easy to develop. Hashemzadeh (2012) confirmed matching items to be a useful practice in vocabulary teaching because of the high word retention rates they yield to.

Hashemzadeh (2012) studied vocabulary retention in relation to different exercise types, specifically matching, fill in the blank, paraphrasing and glossing. She found that the matching task had the highest mean in both immediate and delayed post-tests, followed by paraphrasing, matching and then glossing. Thus, she concluded that the fill-in-the-blank activity is the most effective for boosting EFL learners' vocabulary learning.

2.9.3 Completion Items

Principally, completion tasks, also called gap filling or blank filling, set learners to fill in blanks using target words, which they must guess from clues in the context provided to them (Read, 2000). Read further added that learners' reliance on memory to produce words which fit the context makes completion items recall or production tasks.

An example would be as follows:

-He ran at a..... of 200 km/h.

In his comprehensive description of gap-filling tasks, Scrivener (2005) brought attention to the wide range of possible variations. First, as far as the context is concerned, it can be a single sentence, a short passage, or a whole text. With regard to the words for filling in the blanks, they may not be provided by the testers, so students themselves suggest them, or they may be given to testees, and all they have to do is to choose the right options to complete the sentences or passage. Another alternative, here, is to use a variety of other clues such as pictures, anagrams, first two or three letters of the missing word, small lines indicating the exact number of letters in the word looked for, or to use a derivation form of the word provided (e.g., students are given a noun but to fill in the gap in the sentence an adjective is needed; thus, students have to derive the adjective from the noun).

An additional alternate way to completion items is the 'simple-completion task' presented by Madson (1983). It is done at the 'word' level i.e. some letters are omitted from a word and the students have to figure them out and use them to complete the word. Most of the time the missing letters are affixes like in:

- The doct..... examined the patient.

One problem that rises when writing gap-filling tasks is that sometimes more than one word is possible to fill in the gap; in order to solve this situation; the first letter(s) of the word can be given (Heaton, 1990). Coombe (2011) considered gap filling a good elicitation method

in vocabulary instruction, especially when well-written; they stimulate students to learn words and not only to recognize them. However, she complained about them being time consuming while answering them, which makes allowance for a limited number of items in a task.

Kerr (2016) maintained that gap-fills are more common in vocabulary testing, but they proved to be good teaching tools as well. To explain, he added that gap filling is an effective method for helping learners to remember vocabulary for a long time. Repeated gap filling as a word-oriented activity, Kerr asserted, eases the storage of lexical items in long-term memory by reason of the involvement load which it imposes on learners who must spend mental effort on recalling and retrieving words. Thus, for ultimate benefit, he suggested that learners should not be provided with target words to fill in the blanks; it is better that they work them out on their own. Kerr (2016) even assumed this activity to be very fruitful despite being often criticized for being uninteresting and supportive of receptive knowledge of words only.

2.9.4 Sentence Making

To stimulate students' knowledge and use of vocabulary, they can be required to construct sentences around words given to them (Read, 2000), like in the following example:

Question: Use each of the following words in a sentence of your own.

1. Writing
2. Happy

Sentence writing can take many forms, namely reordering scrambled words into coherent sentences, paraphrasing initial statements (Harmer, 2007), transforming via spotting mistakes in the initial sentence, correcting them and re-writing a new, mistake free version of the sentence, or constructing sentences that should be used in a given situation (Scrivener, 2005), or even translating sentences out or into the target language (Ur, 1999).

Sentence making tasks, according to Read (2000) relate to the productive use of target words, and they help students improve various skills, including understanding of words'

meanings, forms, and collocational and grammatical use in a sentence. Nevertheless, one shortcoming of the sentence composing task recognized by Read is that some words can be difficult for students to employ in sentences on their own and thus material writers have to be very cautious while selecting target words for this type of exercises. Another weakness he referred to is that the instruction should be very clear about composing sentences and not reproducing them. Differently stated, students must know that they have to write new sentences creatively and not just to reproduce sentences they learnt by heart before.

Nevertheless, sentence writing is praised by Laufer (2001) for the potential it has to positively affect vocabulary acquisition by students who use it, when reporting the findings of her study. In Laufer's (2001) experiment, one group of students was introduced to ten words and expressions in a reading text, and another group was given the same items and asked to write a sentence with each of them. After the task, both groups took a test unexpectedly; they had to give L1 or L2 meanings of the ten target items, and they also took a delayed test two weeks later. The results in both tests revealed that students in the sentence writing condition obtained good results which were significantly better than those got by students in the reading alone condition.

2.9.5 Composition Writing

Coomber, Ramstad and Sheets (1986) maintained that writing as a vocabulary rehearsal activity is advantageous. They provided many reasons why it is. Firstly, learning words from writing is more efficient than learning them from lists of definitions or synonyms. When composing, students have to think of a meaningful context where to use the words being learned. Thus, composing exercises urge learners to tap on their prior knowledge to use new words meaningfully. Secondly, students are going to process the words deeply using higher levels of thinking which is very likely to result in better retention and retrieval.

Thirdly, writing is a slow process and the time students spend working on words makes them prone to move to long-term memory (Coomber et al., 1986).

Laufer and Hulstijn (2001) in their summary of empirical studies on the impact of different task types on incidental vocabulary learning noticed that the effect differed from one task to the other. This difference is also explained in terms of the level of word processing: the task with deeper word processing produced superior effects on learning. For this reason, composition writing came first followed by fill in the blank then reading comprehension with marginal glosses. These findings support Laufer and Hulstijn's (2001) idea that vocabulary items are retained better when treated with a higher involvement load.

2.9.6 Dictation

Dictation is an easy activity to prepare and administer; it consists of a set of words or a passage the teacher dictates and the students write down, and it is primarily intended to handle vocabulary recognition and spelling (Ur, 1999). She asserted that if someone can spell a given word, he is likely to know its meaning because people generally spell only words they know. Another variation of this task consists of combining dictation and translation. Here, the teacher says the words in the students' mother tongue, but they write them down in the target language. This makes it obvious that not only spelling but also meaning of these vocabulary items are cared for (Ur, 1999).

2.9.7 Dictionary Use

The dictionary has always been the companion of both language teachers and learners (Read, 2004), especially in the L2 environment (Chen, 2011). Checking out words in a dictionary is a very widespread word-focused activity, particularly during reading (Hill and Laufer, 2003). Likewise, Knight (1994) pointed out that, in general, looking words up in a dictionary is a strategy L2 readers often make recourse to because they can learn more

vocabulary items if they meet a word in a context and at the same time have access to its meaning in a dictionary.

The same is true for dictionary use and L2 reading. In her study, Knight (1994) set American students with high and low verbal abilities to read two Spanish texts with and without access to a dictionary. The results showed that students who were allowed to check the dictionary recalled more word meanings than those who were not, immediately after the reading act, and two weeks later. Another significant finding of her study is that dictionary use was more advantageous for low-verbal ability group. They learned almost as many words as the high-verbal ability students learned.

Hulstijn, Hollander and Greidanus (1996) reviewed research on dictionary use during reading by experts (e.g., Davies, 1989; Hulstijn, 1992; Watanabe, 1992; Jacobs, Dufon, & Fong, 1994; Jacobs, Dufon, & Fong, 1994; Knight, 1994) led them to realize that using a dictionary or a marginal glossary had positive effects not only on text comprehension but also on incidental vocabulary learning and that both high and low-reading-ability groups benefited from it.

In the digital era, pocket electronic dictionaries proved to be as efficient as paper dictionaries in comprehending, producing and retaining vocabulary (Chen, 2010). Still, the former type offers more speed and ease of use than the latter. Chen's subsequent study (2011) consolidated these statements. Comparing electronic and paper bilingual dictionaries led also to the remark that e-dictionaries produced better results in vocabulary retention. Chen, thus, advised EFL teachers to provide some instruction in dictionary skills to enable learners take full advantage of these sources.

2.10 Empirical Evidence of the Effectiveness of Word-focused Activities

In their study, Coomber et al., (1986) investigated vocabulary retention through different types of activities, namely sentence-composing, examples and the traditional

definitions memorizing. They hypothesized that greater processing of words would bring about improved recall of the words on a memory test. The findings of the study confirmed this hypothesis. Students' scores in sentence composing were higher than those of students in the examples group and these, in turn, did better than those in the traditional definition condition. Coomber et al., (1986) explained the results in the light of the levels of processing theory. Thus, this was the order because the generative task of sentence composing is the most demanding in terms of mental processing; examples are fairly less challenging, and definitions are the least demanding. They concluded that their study gave more "evidence that active learning is more effective than passive [one]" (p. 291).

In one of her studies comparing the effects of reading only and reading plus activities on word meaning recall, Laufer (2003) prepared four conditions: reading alone and reading plus three written tasks which are blank filling, sentence making and composing. Results showed that reading alone yielded lower outcomes in meaning retention than reading plus a task. All writing tasks led to better results in the immediate and delayed post-tests even if they decreased two weeks later in the delayed test).

Chen (2011) found that some studies (eg., Summers, 1988; Tono, 1989; Koga, 1995; Bogaards, 2002; Hayati and Pour-Mohammadi, 2005; Zucchi, 2010) demonstrated that dictionary use positively correlates with reading comprehension, vocabulary comprehension and vocabulary production, and, as a strategy of vocabulary learning, it outweighed guessing meaning from context because it warranted a richer and more accurate information on the lexical items checked.

One important aim of Hashemzadeh's study (2012) was to compare the impact of recognition exercises (gap filling and matching word and meanings) and production exercises (paraphrasing and glossing) in EFL learners' vocabulary retention just after the treatment and two weeks later. The findings revealed that gap filling and matching (recognition exercises)

helped students to retain more words than paraphrasing and glossing (production exercises) did. Hence, she recommended teaching vocabulary through recognition rather than production activities.

Huang, Eslami and Willson (2012) reached the similar conclusions after their meta-analysis of twelve studies on output tasks and vocabulary learning. First, language learners benefited from output tasks. Stated otherwise, participants who dealt with an output exercise learnt more words than those who did not. Second, the principle of involvement load is functional; highly processed words were retained better. Third, a classification of output tasks proposed that a combination of them led to the best results in word retention; composition writing produced second best outcomes, followed by sentence writing, then fill-in-the-blank exercises with the lowest scores. Following these findings, the authors suggested that teachers ought to devise activities with a high involvement load in order to boost students' vocabulary.

Likewise, LU (2013) carried out a study to find out which type of exercises facilitates vocabulary learning and retention more for foreign language learners: composition writing or blank filling. Vocabulary features studied were meaning, form and use, and they were measured immediately and two weeks later for passive recall, active recall and sentence production. In general, both types of tasks brought about positive results on vocabulary learning; participants could recall the meanings of some words, spell others and use fewer ones in composing sentences. LU (2013) asserted that such exercises enhance memory for words after reading instruction and can be given for students to complete in the classroom or as homework.

All in all, synthesizing empirical research discussed in this section, we may say that the findings evidence a number of statements:

- a. Word-focused activities play an important role in vocabulary learning.

- b. Word-focused activities are more effective than reading alone or guessing from context in building the learner's lexical knowledge, particularly in L2 and FL environments. Reading texts without any follow up word-oriented exercises induce very little incidental vocabulary learning.
- c. Different tasks lead to different results: the more mental effort put on the task; the better the results are.
- d. The order of tasks according to their effectiveness is not unchanging because results of the same task vary from one study to another.
- e. This variability is explained by most researchers (viz., Craik & Lokhart, 1972; Coomber et al., 1986; Laufer & Hulstijn, 2001; Chen, 2011) in terms of the levels of processing and Involvement Load Hypothesis proposing that when the task-induced involvement load is elevated, students utilize high order thinking skills in word processing which results in learning and remembering vocabulary better.

Conclusion

Vocabulary is at the heart of language learning. Overtime, researchers as well as practitioners have looked for the best approaches to teach it to second and foreign language learners. The focal point changes from one approach to the next: one time it is on form, another on meaning, and a third on both concurrently. Vocabulary focused instruction considers words as the core element that students should study. To this end, many activities can be utilized: MCQs, gap fillings, dictation, completion tasks, sentence making, and composition writing. All of them serve the same purpose of assisting students in learning and using vocabulary both passively and actively, and their effectiveness has been proven in a great deal of studies.

CHAPTER THREE: SHORT MESSAGE SERVICE AND VOCABULARY LEARNING

Introduction

To keep up with the huge, diversified advancements in communication technologies, language teachers and learners alike had to integrate mobile phones in the endeavor of language learning. This led to the emergence of Mobile Assisted Language Learning, or MALL. The affordances offered by mobile devices in general and mobile phones in particular have the potential to facilitate the learning of different aspects of a target language, especially vocabulary. This chapter accounts for the use of the short messages service in vocabulary instruction. After providing a thorough overview of the growth of this type of instruction through time, the chapter proceeds to explore the different mobile features as used for the purpose of language teaching, and then it ends with spotlighting the role of SMS in promoting vocabulary learning in different settings, especially in the foreign language one.

3.1 Mobile Learning Defined

Although it started decades back in the century, it is only since 2000 that mobile learning, shortened m-learning, has been growing in visibility and importance by dint of many specialized conferences, seminars and workshops (e.g., MLEARN and The International Workshop on Mobile and Wireless Technologies in Education) which are held every year in a different country such as the United Kingdom, Italy, Sweden, Taiwan and Malaysia (Traxler, 2005). Likewise, research, projects and initiatives, and correspondingly literature on m-learning, are growing every day since then (Pieri & Diamantini, 2009).

Indeed, the first comprehensive handbook was published in 2005 by Kukulska-Hulme and Traxler (Traxler, 2009). Consequently, the concept of mobile learning is relatively new, and it is still blurred and fuzzy because different writers define it in different ways (Unwin, 2015). Indeed, the literature reviewed here revealed many controversies about providing a

sound, inclusive, permanent definition of m-learning. Discrepancy is over the following points:

- Who/what is mobile the learner, the device, or content?
- What elements does it include?
- Is m-learning an extension of e-learning or a totally new paradigm?

These questions will be answered in what follows.

To start with, the chief point of disagreement among researchers and educators is over what makes learning *mobile*: the device, the learner, or content learning (Guy, 2010). From a technology perspective, m-learning refers to any learning delivered through portable *devices* created, on the one hand, by mobile technologies (m-technologies), viz., Personal Digital Assistants (PDAs), mobile phones, iPods, smart phones, game consoles, laptops and tablets (Peters, 2009; Pieri & Diamantini, 2009), and on the other hand, by global wireless technologies such as GPS (Global Positioning System), GSM (Global System for Mobile Communications), GPRS (General Packet Radio Service), 3G (Third Generation) and satellite systems (O'Malley et al., 2005).

With the use of mobile wireless devices, learners have become able to access knowledge at any time and place without being obliged to go to a particular place at a particular time to learn (Ally, 2009). However, because of its focus on m-technologies, this definition is assessed as being “constraining, techno-centric and tied to current technological instantiations” (Traxler, 2009). In other words, a definition which relies heavily on technology can lose its truthfulness with time because technology is constantly changing, and it does not really capture the essence of m-learning (mobile-learning) as it overlooks the larger environment within which learning takes place, an environment which itself has become part of a mobile ‘lifestyle’ (Sharpley, Sánchez, Milrad, & Vavoula, 2009). Bachmair and Cook (2010) believed that mobile learning is not about technology; rather, it relates to people learning from everyday life events and ever changing contexts.

In the same line with Bachmair and Cook (2010), Traxler (2009) proposed to investigate m-learning from what the learner experiences with it and how this differs from previous modes of education. He argued that with the widespread ubiquitous mobile devices, there is a great potential to deliver and access information regardless of place and time leading to a move from the traditional way of 'knowing' the information to the recent one 'finding the information'. Unwin (2015) also stated that the quality *mobile* should be related to *learners* or individuals not to technologies. For Unwin, the simple fact that teachers and learners converse or interact while moving in the schoolyard or in the street makes learning mobile. O'Malley et al., (2005) gave many other examples, among which are reviewing materials by a student in his way to or from school, promoting one's language skills when being to some foreign country and reading a book while traveling by train or bus. All these episodes typify m-learning even though no mobile devices are involved. In a nutshell, when considering that it is the learner who is mobile, m-learning becomes to mean learning which happens when the person engages in a learning act whilst he is on the move.

O'Malley et al., (2005) join both perspectives, device and learner, and broaden m-learning definition to any kind of learning that occurs when the learner is not at an usual, set place (classroom, home, library), or learning that is acquired by virtue of mobile technologies. When both agents are fixed, learning becomes non-mobile, they added. Laouris and Eteokleous (2005) agreed with this definition and proposed to move mobility simultaneously to the learner and the environment where learning takes place, and they have even included more elements, specifically space, content, learner's mental abilities, method of delivery and interaction with content.

Yet, a third group of writers Sharples et al., (2009) pinpointed that *mobile* is the characteristic of the *content* being learnt. They argued for this stand claiming that the plethora of subjects, web pages and articles available to the user tend to grab his attention, and he is

often directed from one topic to another and from one site to another, leading him to move concentration across them, hence, making the learning content mobile, this time. Furthermore, O'Malley et al., (2005) noted that sometimes m-technologies are *immobile* when used in the classroom such as Personal Digital Assistants (PDAs), yet the learning happening in this way is still mobile.

Sharples, Taylor and Vavoula (2005) called attention to the fact that mobility does not relate solely to space but to time as well. They explicated that learners get information while moving in time through updating information previously learned or renewing ideas and strategies employed in the past. They accentuated the role of environment with its factors of space and time when stating that, in the digital era, learning should be understood as 'conversation in context' made possible owing to around-the-clock interaction between participants via mobile devices.

For an all-inclusive description of m- learning, El-Hussein and Cronje's definition (2010) came to take into account all three elements by claiming m-learning to be any form of learning that takes place in settings and spaces which can afford for "the mobility of technology, mobility of learners and mobility of learning". Ozdamli and Cavus (2011) ascertained that researchers need to break down the construct of m-learning into its numerous determinants in order to account for what it really is. These elements are presented as specified and described by Ozdamli and Cavus in what follows.

3.2 Elements of Mobile Learning

As stipulated by Ozdamli and Cavus (2011), the learner, teacher, environment, content and assessment are the constituent parts of mobile education, and the interrelatedness between them determines the essence of this type of learning.

a. The Learner: The learner is at the heart of m-learning. All the process is at his hands; he has to make several decisions such as when to access data, how to process it and at which speed,

whether to work alone or with other learners, whether or not to create and share novel material and how to evaluate his and others' performance. He is served by the remaining elements as demonstrated underneath.

b. The teacher: The teacher's qualities and requirements for the teaching job in the mobile technology epoch are different from those prior to it. Now, teachers must know how to use technological devices, design collaborative, interactive, motivating tasks and adopt methods to the twenty-first century learner via canceling barriers and accepting the idea of learning with their students. Furthermore, they have to evaluate instructional methods employed and students' achievement in order to make necessary adjustments and supply learners with proper guidance and advice.

c. The content: Curriculum design should not be the prerogative of only some people, and learning materials should be selected in collaboration with teachers, learners, parents, etc. Besides, content has to be presented in a way that facilitates and accelerates the reach of knowledge by the learner. A variety of multimedia options and games can be used to engage students in learning and achieve the objectives wished for.

d. The environment: The environment is any place where the information is found, and users can attain it; either in the classroom, online (by means of wikis, blogs, social networks), or via mobile phones and laptops. This space must include all necessary data and sources that can be accessed from where the learner is, and it has to encourage both teacher-student and student-student interaction.

e. Assessment: Evaluation should be an integral part of m-learning. There must be methods to help teachers assess students such as online exams and quizzes, discussion boards, project evaluation, etc. Students, for their part, should be given the chance to assess themselves or other fellow students by means of feedback. Feedback that, Ozdamli and Cavus (2011)

insisted, must be constructive in order not to demoralize learners and help them do better in the future.

Crompton (2013) developed her own vision of m-learning which is not totally divergent from that of Ozdamli and Cavus (2011). This approach is based on the inclusion of four facets in m-learning, to wit: context, pedagogy, technological devices and social interaction. She maintains that it is “learning across multiple contexts through social and content interactions, using personal electronic devices.” (p. 99).

Context here, Crompton spelled out, refers to academic or non-academic environment, self-directed or spontaneous, context-aware or context neutral. M-education can take place in or outside the classroom; it can be planned beforehand to meet some learning objectives set by the learner himself, or it can be undertaken on the spot to answer a need for knowing something of interest. Moreover, the physical setting can be part of the learning experience; for instance, in a field trip made by botanists, the garden (which is the environment) becomes a key component of the learning experience. Or, the context can be totally out of it as in reading an article about the daffodils while waiting in the bus station.

Pedagogy, according to Crompton (2013), is dictated by community beliefs, prospects and ideals. It has witnessed radical changes over time, moving from viewing the learner as an empty container of knowledge to a very active participant in the learning process, and the teacher from all knowing to a facilitator and adviser. This shift is resultant from changes in theories about language and language learning which removed the teacher from the center of the instructional operation and placed the learner therein.

In Crompton’s viewpoint, technological inventions have imposed themselves as inevitable means to assist learners’ autonomy which is the tenet of the learner-centered pedagogies prevailing nowadays. Over decades, gadgets have progressed towards being more and more personalized, from desktop computers to tablets and from landline telephones to

mobiles. Portable digital devices are ever-growing in utility and visibility in the educational scene all over the world.

Interaction, as delimited by Crompton (2013), is possible thanks to the pervasiveness of m-technologies. For one thing, teacher-students, student-students and teacher-parents communication has never been easier than today. For another, the learner's interaction with environment and society is crucial in the knowledge-making process, and m-learning is at the root of this increased interaction. A vision similar to Crompton's is articulated by Koole (2009) who proposed the 'frame model' which is "a mode of learning in which learners may move within different physical and virtual locations and thereby participate and interact with other people, information, or systems – anywhere, anytime." (p. 26)

When synthesizing previous categorizations of m-learning components, it can be deduced that, regardless of the more or fewer particularities a writer or another mentions and details, m-learning is basically defined in the light of the device, learner, environment and the interaction between them.

3.3 The Evolution of Mobile Learning

History of m-education has been written from different perspectives. Some writers gave particular attention to the influence of different existing learning theories on technology implementation in instruction; on the contrary, others underscored the role of technology in the formulation of new pedagogical paradigms. A number of further authors underlined the focus of m-learning, and some other writers stressed the societal changes and their impact on educational technologies. By and large, the history of mobile learning is divided into three phases each of which has a different centre of attention.

3.3.1 The First Phase: A Focus on Devices

Kukulska-Hulme and Traxler's (2005) summary of the evolution of m-learning focused on the changing society and learner. They stated that consideration of mobile

technologies use in learning imposed itself in the late 1980s when the computer started to be criticized for its fixed hardware which caught the learner's attention and distracted it from the learning activity. Second, fixedness implied not being available whenever and wherever needed, so device ubiquity was a serious issue that had to be addressed. To become ubiquitous computers needed to turn into smaller, lighter, handheld tools which could be carried everywhere easily. Similarly, they had to be networked and wireless to access information on the Internet. In this way, Kukulska-Hulme and Traxler (2005) wrote, it was necessary for computers to become both *pervasive* i.e. so entrenched and integrated in people's daily activities that they are unnoticed and *ambient* i.e. all around of us and could be used by means of the infrastructure available everywhere.

Once meeting these requirements, attention was directed towards the usefulness of mobile technologies for instruction inside the classroom, which formed the outset of m-learning in the 1990s (Unwin, 2015), especially with the emergence of various devices such as e-books, classroom response systems, data logging devices, handheld computers, PDAs and tablets (Pachler, Bachmair & Cook, 2010). At this phase, mobile assisted instruction took off with many schools and universities allowing students to bring their laptops and cell phones into classrooms and lecture theaters (Crompton, 2013).

3.3.2 The Second Phase: A Focus on Learning outside the Classroom

Later on during the early 2000s, wireless technologies were developed. Three Dimensional phones, Wi-Fi networks, Bluetooth Networks, GPS receivers and active/passive radio frequency identification became defining features of the second phase of m-learning (Crompton, 2013). Focus here shifted to the possibilities these developments open up for continuing learning and training outside the walls of the classroom mainly in field trips, museum visits, or the workplace, affording for context sensitive learning and professional updating (Unwin, 2015).

That is, the learning mobility rather than the device mobility was the defining feature of this phase (Pachler et al., 2010). Many projects such as the M-learning Program created by the European Commission exploited the connectivity and positioning functionalities offered by new m-devices to deliver instructional materials to many of out-of-school youth (Unwin, 2015). Another determinant aspect was the use of SMS by schools and universities to communicate both with students and parents (Pachler et al., 2010). Notifications about school life, study guides, small amounts of educational material, students' questions to lecturers, grammar rules and vocabulary items were sent by SMS, Pachler et al., illustrated.

3.3.3 The Third Phase: A Focus on the Mobility of the Learner

In the mid 2000s, m-learning moved to a further level, that of anywhere, anytime learning and training; instruction can reach the schooled, unschooled, workers, trainees and everyone due to innovations in m-technologies and m-learning projects and initiatives (Unwin, 2015). At the center of attention are found the mobile learner, informal learning and lifelong education, or in Laouris and Eteokleous's terminology (2005, para. 4) the "*when I want, wherever I want, and however I want*" learning. This is typical of the Mixed Reality and Context-Sensitive modes of learning, where the physical and virtual worlds fuse to help learners make sense of what they learn themselves via the use of multimedia and applications in their mobile gadgets (Pachler et al., 2010).

Pachler et al.,'s following example clarifies how Context Sensitive Learning can be aware and helpful for the learner. If a learner has an assignment that should be handed in soon, location-based guides, data logging systems and applications of the context sensitive system may direct him to the nearest sites, such as libraries, where to find resources needed to do the homework; these directions are given depending on where the learner is and what he does. On her part, Peters (2009, p.116) specified that this mode is characterized by the options

of “the just enough, just in time, just for me” that can be customized to fit every individual learner’s needs.

All things considered, Pachler et al., (2013) stressed the fact that the three focal points which are device, learner and context are not mutually exclusive; they rather coexist in every phase, yet only one element is more prominent than the others in each phase.

3.4 Characteristics of Mobile Learning

Many theorists view m-learning as the natural extension of distance and e-learning (electronic learning). For example, Traxler (2009) and Peters (2009) grounded m-learning in e-learning or web-based delivery of content. E-Learning was the first label coined to signal the marriage between learning and technology as it denotes the use of electronic means in teaching and learning (Crompton, 2013). According to Rosenberg (2001), e-learning belongs to the broad ‘distance learning’ which refers to instruction delivery by means of different ways including the Internet, but also correspondences, one-way television courses, etc.

Kukulka-Hulme and Traxler (2005) stated that though m-learning has much in common with theories of technology and computer-assisted learning, it exceeds them with changes in location, speed of information access and use of small, lightweight, wireless mobile devices. Unwin (2015), in turn, identified four characteristics differentiating m-learning from e-learning: mobile devices are less expensive, ever-present, more personally adaptable and quite easier to use than the traditional information and communication technologies. All this makes m-devices very convenient for a great deal of people all over the world.

For a more acute distinction, many writers provided different lists to set m-learning apart from other modes, including Traxler (2005, 2007, 2009), Kukulka-Hulme and Traxler (2005), Sharples et al., (2005), Shih and Mills (2007) and Ozdamli and Cavus (2011), to name

only a few. These lists intersect in many points considered to be defining of m-learning; they are summarized below:

- **Mobility:** Mobility implies learning while the person travels, seats or walks; he may even not need to use his hands or eyes to accomplish the learning act (Traxler, 2009); listening to an audio lesson is a case in point. For Sharples et al., (2005), mobility is the most important aspect of m-learning, for it involves participants who are scattered yet organized in an informal way. El-Hussein and Cronje (2010, p. 5) believed that mobility and formality can be joined to deliver the total content of higher education to students via mobile technologies which are becoming “more and more capable of performing all the functions necessary in learning design”.

- **Personalization:** M-learning takes into account the differences among learners. It acknowledges their learning styles, social and physical dissimilarities and gives them the chance to learn each at his rate and convenience; likewise, it recognizes the context and background of individual learners when deciding about the content, design and delivery devices and interfaces (Traxler, 2009).

- **Situatedness:** M-learning takes place on the spot, in a situation-specific fashion. In other words, it happens just in the time and the place where an activity is occurring and not necessarily in a predetermined institutional setting such as classrooms or lecture halls (Traxler, 2009). To clarify this aspect, consider the following examples: pupils learn in their way to school, agriculturists in the field, architects in the building site, shipwrights in the dockyard, etc. In this way, the workplace itself becomes the context within which learning is attained. As a result, Peters (2009) noted that mobile technologies have diminished reliance on stable sites for study or training and thus transformed the way people learn and work.

- **Authenticity:** Traxler (2009) remarked that m-learning is initiated by a need either to solve a real-world problem or to hold a genuine project of interest to the learner. An example of the

former, Traxler further explained, would be that of learners who are engaged in a real life task and face problems with it, so they browse the internet and access information useful for them to overcome the difficulties and complete the task successfully. An instance of the latter concerns the special help m-learning gives to distant and part-time students; it enables them to indulge in learning, for they can discuss things, work with others and receive support from tutors, all where they are (Traxler, 2009).

- Ubiquity: M-learning has no specific requirements in terms of location and time; it is omnipresent. One can learn during moments that were wasted before m-learning. The time spent waiting at the doctor's or the bus station can be filled with learning a variety of contents (Pieri & Dimantini, 2009). Ozdamli and Cavus (2011) called ubiquity 'spontaneity' and viewed it as the most significant aspect of m-education. Ubiquitous learning links trainers and trainees in a way that helps students fulfill their learning needs and objectives both in formal and informal contexts: classroom, laboratory, home or still outdoors (Shih & Mills, 2007).

- Interactivity: A key feature of mobile tools and environments is their capacity to offer opportunities for interaction between various users, and m-learning is a discipline rich in collaborative and interactive activities among different agents such as teachers, students and users in general (Ozdamli & Cavus, 2011). Not only are M-technologies effective for connecting people in information-driven communities but they also give them the chance to link up spontaneously, immediately and situationally (Shih & Mills, 2007).

- Blending: M-learning is supportive of other types of instruction; any learning theory, be it behaviorism, cognitivism or constructivism, can apply its principles easily when designing instructional material to be transmitted via m-technologies (Shih & Mills, 2007).

Instant information: Shih and Mills (2007) put emphasis on the instant accessibility of knowledge at any time, any place via multimedia text/voice messages, calls, images and videos. Furthermore, definitions, formula and equations are typical illustrations of information

that is provided by mobile devices instantaneously, and from which students can benefit to handle homework and complete assignments (Ozdamli & Cavus 2011).

3.5 Benefits of Mobile Learning

The aforementioned characteristics of m-learning bring about its advantages. Attewell (2005) summarized them in the following points:

- a. M-learning is irreplaceable in offering the opportunity for a personalized learning that can transcend the limitations of time and space.
- b. It brings variety and richness to the traditional lessons. This diversity is vital as different students learn in different ways: auditory, visual, verbal, kinesthetic, etc. Content design for mobile devices can effectively fit all and any of these learning styles thanks to the use of pictures, videos, voice, music, games, graphics and more other options.
- c. It assists students in promoting both their literacy and numeracy capabilities, especially among poor attaining learners.
- d. It is useful for boosting individual as well as shared learning depending on learners' affective characteristics; there is room for those who prefer private use of technology and for those who propone group work alike.
- e. It helps diagnose learners' weaknesses and identify their needs.

In their article, Shih and Mills (2007) enumerate supplementary advantages of m-education stating that it reduces the rigidity of in-the-classroom learning experience and thus gets all students engaged in learning, and it encourages hesitant learners to become more active and holds their interest and keeps them focused for longer periods than conventional teaching does, not only because of the new integration of mobile devices in the classroom but also owing to the variation in content delivery modes. The latter include the possibility to surf the web and to interact with tutors and peers via calls, SMS and emails. This makes m-technologies a very effective way to get learners highly engaged and motivated.

In addition, implementing M-learning elevates the level of self-confidence and esteem in students who are more experienced users of mobile devices; they feel trusted and respected as they show skills other peers view as important. All in all, with the flexibility and convenience featuring m-devices, they make accessing knowledge a matter at the tip of the learner's fingers (Shih and Mills, 2007).

It is worthy to note that the same merits were referred to by Kukulska-Hulme (2013) in the field of MALL. These advantages let Ally (2009, p. 1) wrap up "Hence, education and training have no other choice but to deliver learning materials on mobile devices."

3.6 Mobile Assisted Language Learning

MALL is grounded in the larger field of mobile learning. Portable, wireless, context aware technologies are changing learning in many fields, and language learning is no exception (Miangah & Nezarat, 2012). The use of m-technologies in formal and informal learning environments encouraged language teachers to integrate them in their everyday practices (Stockwell & Hubbard, 2013). In fact, technological tools were used in language instruction since their appearance; phonographs, radios, televisions and then video cassette recorders (VCRs) and PCs were employed to supply learners with samples of authentic speech; nowadays, nomadic media (cell phones, personal digital assistants, etc) are very common (Chinnery, 2006).

However, unlike many writers, Stockwell and Hubbard (2013) did not view MALL as a sub-area of m-learning; instead, they believed it to be a "sophisticated field within its own area." (p. 5). They explicated that even though it overlaps with m-learning and Computer Assisted Language Learning (CALL) in most of its principles, it has its own peculiarities stemming mainly from the use of innovative devices, new communication options, original applications and social networks. Indeed, MALL took CALL into learners' everyday life and made learning an integral part of their daily routine (Joseph & Uther, 2009).

In summary of all what has been said above, MALL refers to the paradigm where a variety of mobile, most of the time networked, devices ranging from handheld personal computers, through phones, voice recorders, digital cameras, to music and video players and recorders are employed to support language learning and give language learners help whenever and wherever they need it, thanks to their physical characteristics such as size, weight and input/output capabilities of keypad, touchpad, audio functions and screen (Shield & Kukulska-Hulme, 2008; Kukulska-Hulme, 2013).

Hi-tech devices have served educational objectives and become instructional tools over time, yet they need to be backed up by insightful second language pedagogy (Chinnery, 2006). A thing already asserted by Shield and Kukulska-Hulme (2008) who noticed that an increasing bulk of research was and still is being carried out to explore issues related to MALL such as learners' needs in the digital era, how new devices can be exploited to meet them, the changing significance and potential use of these devices, and how they impact the conceptualization of language teaching and learning, particularly that, Chinnery (2009) pointed out, MALL is possible in different forms; it can be face-to-face, distance, online, self-paced or calendar-based.

3.7 Approaches to Mobile-assisted Language Learning

Two approaches to MALL are delineated in the literature: content- and design- related approaches, one is centered over content and the other over design, as their names denote.

3.7.1 Content-related Approaches

Content-related approaches are interested in the development of learning materials and activity types which can be part of language courses that take place necessarily in formal settings (the classroom). This content is delivered basically via mobile phones and is mainly text-based (Shield & Kukulska-Hulme, 2008). Shield and Kukulska-Hulme further affirm that multimedia gadgets are not completely absent from the scene. Tools such as music players or

iPods, digital voice recorders and multi-function mini-camcorders with their potentials are also used to transmit instructional material in the areas of vocabulary, reading, speaking and listening, but they are less frequently employed than the texting modality of m-devices.

One shortcoming for which the content-related approach is criticized is the lack of interaction. Supply of content via SMS or websites does not encourage interaction and cooperation among learners, for most of the time they receive it inertly. Another downside is that this method does not make full use of the anytime, anywhere affordances offered by mobile technologies since sending content is scheduled by teachers at their convenience not at the learners' one (Shield & Kukulska-Hulme, 2008).

3.7.2 Design-related Approaches

According to Shield and Kukulska-Hulme (2008), design-related approaches are concerned with the 'informal' side of mobile learning. That is to say, learners decide about what to learn far from any predetermined learning, and the content devised here does not come necessarily from teachers; it can be initiated by students themselves and directed to other fellow students to meet some of their study objectives. They go on explaining that some devices such as web-enabled mobile phones, PDAS or palmtop computers are utilized to provide episodes of authentic use of the TL, distribute content, and give the learners the opportunity to be responsible for their own learning.

They precise that, unlike the content related, the design-related approach makes full use of the mobile devices' ubiquity feature when designing learning activities because it cares about giving the learners the freedom to learn the content they are willing to learn at the time and place they want to. This is so because the aim of design-based approach is to find solutions for real-life problems. Herrington, Herrington and Mantei (2009) clarify how this design works. When a problem is detected, it is deeply analyzed by concerned specialists or teachers; a solution is then figured out taking into account both teaching principles and

technological facilities available. This solution can be modified and enhanced to achieve the overall goal of improving learning.

3.8 Principles of Mobile Language Learning

Based on a review of the literature on CALL, m-learning and MALL, Stockwell and Hubbard (2013), Herrington et al., (2009), Joseph and Uther (2009) commonly agreed on a number of principles for an efficient development and implementation of mobile language learning. These are synthesized subsequently.

- The possibilities and limitations of the devices and the contexts within which they are operant should be taken into account when designing mobile activities and applications.
- Distractions from the environment and multi-tasking should be restricted in order to decrease stress and errors and to increase productivity.
- Despite its usefulness in directing learners' attention to learning tasks, the 'push' mechanism should be employed with caution. Learners should be given control over when to receive 'push' messages, be they about some content, activities, or just reminders.
- Equity should be maintained; that is, consideration of the possibilities that *all* students may not be able to benefit from MALL is vital. Teachers need to see whether learners have mobile devices, that are compatible, functional and networked and that they can afford for learning via them. If not, non-mobile materials should be devised to replace the mobile ones.
- In the classroom, both students and teachers should be prepared and motivated to adopt mobile learning from among other types of learning modes.
- Learners' learning styles and capabilities in using mobile devices should be thought about when implementing MALL. For example, some learners might be given guidance and training and made aware of the negative effects multi-tasking has on performance in a given language task so that they avoid this habits for the sake of effective learning.

- The adaptation of tasks or applications to learners' actual skills and beliefs about mobile uses is required in order to make sure that they are ready to accept learning the language via their mobile devices.
- Language learning activities have to be short and to the point as much as possible, so longer tasks can be broken into smaller ones.
- The match between task, technology and context should be found and achieved, for example, 'push' messages with short tasks can be sent to students during the breaks between classes and longer ones after the classes when students are in the library or at home. Similarly, tasks involving voice messages can be sent to small devices (e.g., smart phones) but long texts to larger ones (e.g., Personal Computers (PCs) or tablets).

Because of their availability, cost-effectiveness, portability, user-friendliness evident practicality in the field of language learning., Chinnery (2006) maintained that mobile devices are effective in amalgamating language learning and social life routine; as a result, "it does seem quickly headed for a world where mobile learning is a fashionable channel for language study" (14). More reasons for this to happen is that high-tech gadgets allow for a very rich and relaxed atmosphere for learning languages (Miangah & Nezarat, 2012) and multiply the opportunities for continuous and contextual learning (Kukulka-Hulme, 2006). Furthermore, MALL conceals the frontiers of CALL, frees learners from the restrictions of time and location and makes language learning easier and cheaper (Miangah & Nezarat, 2012). It is now possible for anybody to learn a new language by themselves in their free time, where they are; all that they need is a just web-enabled wireless device.

Language learning is a lifelong process that should adjust to the changes education, work and society in general undergo. Nowadays, mobile technologies offer the chance to pursue this process (Kukulka-Hulme, Lee & Norris, 2015), particularly for people who are busy and cannot learn a new language following the conventional classroom-based way

(Miangah & Nezarat, 2012). For instance, m-devices have led to the coinage of new words and expressions, new signs, new ways of writing and saying things and, at the same time, made it possible for users to learn about them only via sharing (EL-Hussein & Cronje, 2010). In spite of the endless functionalities and functions of m-technologies in MALL, they do have their shortcomings.

3.9 Limitations of Mobile Language Learning

Reference is made to a number of technical and linguistic problems which may delimit MALL. Technical limitations are pertinent to the device size, weight, input/output capabilities, memory and screen (Miangah and Nezarat, 2012). For instance, when considering the case of cell phones; Miangah and Nezarat (2012) observed that a limited memory capacity leads to losing data or impossibility of storing them; additionally, the small screen size can be annoying when writing or reading text messages.

On their part, Kukulska-Hulme et al., (2015) diagnosed many linguistic problems. First, the rapid increase in the number of messages sent has led to the creation of net speak where abbreviations like '4' replaces 'for or four'. Second, language learners are exposed to unexpected linguistic challenges beyond their abilities because of the informal links with language speakers from around the globe, or the use of potentially inappropriate resources and applications. Third, formal and informal learning blend in a fashion that needs rethinking and finding ways to make the move from one type to the other smooth, so teachers as material designers are challenged to integrate the real and virtual worlds in an appealing way to motivate learners to study grammar patterns, lexical items and communicative skills. Fourth, a mismatch between the teaching principles and practices may contradict or even conflict with learners' self-determined methods of learning. Though learners' autonomy is valued, it should not mean working in detachment from any peer support or teacher guidance. Despite spotting these limitations, Kukulska-Hulme et al., (2015) acknowledged the potential of MALL in

helping to release learning responsibility from teachers to more and more autonomous students, especially if the implementation of MALL is espoused with good language teaching.

3.10 Mobile Devices

In Kulkulska-Hulme et al.,’s definition (2015, p. 9), mobile devices are portrayed as “multifunctional tools that subvert definitions of communication exclusively derived from traditional notions of speech and written text”, for learners can make advantage of various functionalities viz., sound, image, text and any other feature in learning. For example, a classroom response system can be used to gather feedback on students’ performance and comprehension during a session in the classroom where the teacher asks questions and students select the right answer anonymously; then, they are given feedback on their responses (Naismith, Lonsdale, Vavoula & Sharples, 2004). M-technologies refer to devices that can be personal, shared, portable or static (Naismith et al., 2004); the figure below includes some of them.

Figure 3.1
Common Types of Contemporary Mobile Devices



The following part includes detailed description of each of the most common mobile devices and brings to light its relevance to learning languages.

- **iPods:** The iPod is a handheld media player and an Internet gadget which can be used to download and store different sorts of data, including music, audio books, podcasts, photos and videos (Kroski, 2008). He added that learners can download lectures in one of the forms listed above as well as other educational materials such as e-books which are read easily on iPods with big screens. Students can also share educational files, work together on projects, review lectures, prepare for exams and give detailed oral and visual presentations when words alone do not really work (Kroski, 2008).

Although opponents criticize iPods for their high cost, small screen size and lack of communication features, the iPod is a popular learning instrument among students and teachers alike: Teachers prepare electronic lessons, and students download them free of charge for study on the go (Corbeil & Corbeil, 2007). Chinnery (2006) also shed light on many virtues of this device. He stated that an iPod is compact and reads MP3 files with an excellent sound quality, and it comes with many other add-ons such as microphones, speakers and software free for downloading. A good example of the latter is the iLingo, a language learning program based on translation and phraseology, Chinnery singled out. Under MALL, iPods find for themselves various uses; for instance, in Duck University, they were used by freshmen to record and listen to language lessons, answer voice quizzes, submit audio homework, record voice notes and receive verbal feedback. So, stories of successful language learning and effective lesson plans are ready for use by language teachers who have iPods, he asserted.

Chinnery (2006) gave special mention to the generation of podcasting as one of the most important assets of the iPod. He defined a podcast as a digital audio file where both iPods and broadcasting blend. Podcasts can be uploaded to or downloaded from the Internet, and they are already popular in language learning because they provide authentic instances of TLs. English language learners, for example, can benefit from English cast and voice of

America's Special English podcast or go through blogs to increase their proficiency in the language, Chinnery (2006) advised.

- **MP3 Players:** MP3 is the shortened form for Moving Picture Experts Group (MPEG) Audio Layer-3. According to Corbeil and Corbeil (2007), an MP3 player is basically a digital audio player used to play music; however, it can play other voice files as well. MP3s can be employed by learners to record sound, download and listen to podcasts, audio lectures and books; these can be used for exam preparation (Corbeil & Corbeil, 2007).

MP3 players are praiseworthy for their lightness, smallness, long battery life, excellent sound quality; nevertheless, they are not indispensable. They can be replaced by more sophisticated devices, especially that they take too much time to transfer and encipher data, and they do not allow for interactive activities (Corbeil & Corbeil, 2007).

- **Personal Digital Assistants:** Corbeil and Corbeil (2007) described the PDA as a very popular and useful tool because it combines together computing, Internet accessing, wireless networking along with interesting input and output features viz., calendar, notepad, Bluetooth, Wi-Fi and stylus. The two researchers asserted that many activities can be performed by means of a PDA. For instance, it is possible for the user to play audio/video files and flash movies, to show a text and edit it, to receive e-mails and send text messages, to surf the Internet and store voluminous files, Corbeil and Corbeil, 2007).

Joseph and Uther (2009) perceived PDAS as more advantageous than phones for students and teachers in dealing with classroom exercises by cause of their larger screens and higher resolution which facilitate reading. Yet, they are critiqued for their relatively bulky size for a portable device which leads people to be reluctant towards carrying them when compared to mobile phones. Conversely, Chinnery (2006) noted that PDAs were instrumental in mobile learning much more than cell phones. In MALL projects, e.g., the Mobi Learn program, PDAs were used as translators. Their various functionalities, he further pointed out,

afford for several applications in m-learning in general and in MALL in particular, notably wireless access to the Internet, material creation and file sharing among teachers and students or students and students. What is more, for Mehta (2008), PDAs' most important asset is the inclusion of numerous business and productivity applications such as emailing, office productivity and custom-built software, which make them very popular among business people.

USB Drives: Corbeil and Corbeil (2007) presented the Universal Serial Bus (USB) drive as a device used for mass-storage of data; it serves students well for storing and retrieving all sorts of electronic data pertinent to their courses and lessons. In fact, they can carry them easily since they are very light and small, and they can use them with all new brands of computers. For Corbeil and Corbeil, one demerit of the USB is being a one-function device which can be replaced by other mass-storage instruments. Though USB drives are acknowledged for their fast installation and data transfer, they are disapproved of operating only when annexed to computers or fixed tools, which may not be convenient for all users (Joseph and Uther, 2009).

- **E-book Readers:** Users can download plenty of electronic books (e-book), newspapers, magazines and text-based materials to an e-book reader whereby effective reading is facilitated via a number of features, including text magnifying, searching, highlighting, bookmarking and backlighting in dark places (Corbeil and Valdes-Corbeil, 2007). These features make it ideal for learners when dealing with text-based content in the course of their study. Yet, the writers claimed that e-book readers remain limited devices in terms of computing capacities and formats of text they can read.

- **Laptops:** Laptops, as well as tablet personal computers, are the most complete and powerful mobile technologies with their support to audio, video, gaming, Bluetooth, Wi-Fi, Internet browsing of the web, communication features (e-mail, SMSs) and input tools such as handwriting recognition and voice to text conversion (Corbeil and Corbeil, 2007). Each of

these modalities, the two researchers asserted, is of help for students when handling learning tasks. There is room for collaboration and interactivity, scientific experimentation and research. Still, they do not remain without drawbacks, namely cost, weight and lack of mobility in comparison to other devices (Corbeil and Corbeil, 2007). Fortunately, Kroski (2008) noticed that manufacturers have already found ways to remedy these shortcomings; laptops are getting smaller and lighter to satisfy users' need for mobility, and new ultra mobile PCs or with 4 to 7 inch screens which weigh about 2 pounds only are available on the market.

- **Mobile phones:** Mobile phones are devices in which a number of features merge, specifically computing, telephony and web browsing (Corbeil and Corbeil, 2007). As such, a smart phone might be very useful for students who can store, create, download and display video, audio and text-based types of content. In addition, the authors pinpointed that video and voice calling, e-mailing and text messaging allow for cooperative and interactive study and research at a global level; nevertheless, the cell phone is critiqued for its small screen, inefficient keys for input and high cost of some phones.

Chinnery (2006) hinted to a number of studies where cell phones were employed. One of the earliest projects was held by the Stanford Learning Lab. The Spanish language was taught via voice and e-mail vocabulary activities, quizzes, word and phrase translations and interaction with tutors. This study yielded good results. Chinnery singled out a more recent use of technology in language learning which is 'moblogging'; the word is a combination of weblogging and mobile. Mobloggers create language content and share it or work in collaboration with other mobloggers. Moblogs are useful because of just-in-time, real-life, personal materials. In addition to the use of mobile phones for educational purposes, they are used for administrative reasons such as imparting with teachers and students reminders and notifications of exams, updates, etc (Chinnery, 2006).

One more strength of mobile phones identified by The UNESCO (2013) concerns the educational applications that are more and more in use by learners for accomplishing a variety of activities, notably annotating, calculating, composing and creating contents. These applications are of benefit both in formal and informal learning contexts, for every student may have the types of applications that match his learning needs, style and objectives. In addition to applications, Miangah and Nezarat (2012) urged language learners to take advantage of SMS, MMS, Internet access and camera recording to learn languages.

3.11 Mobile Phone Features

Mobile phones form the biggest section of mobile devices as they are of different shapes (candy bar, sliding box, or clam shell), sizes (from 120x120 to 320x240 and more), operating systems (symbian, windows and others), and input methods (key pad, a stylus, or on-screen keyboard) (Mehta, 2008). Though they are chiefly used to talk, they have myriad other functions because of their many modalities (Mehta, 2008). Kroski (2008) accounted comprehensively for the various features a cellular phone includes, be they pre-installed on the device or added to it via an operator. This account is summarized below in alphabetical order.

- **Bluetooth:** Bluetooth is a wireless technology which comes inherently installed. It can be used within the distance of 10 meters to send and receive files from one phone to another.
- **Camera:** Nowadays, cell phones include one or more digital cameras that can be used not only to take high resolution pictures but also to record videos.
- **Desktop synchronization:** A cell phone has the capability to connect to a PC or laptop via given accessories or software in order to transfer data, files, music from and to the phone.
- **Downloadable content:** The ability to download different types of material and applications is an aspect of today's cell phones.

- **E-mail:** E-mail capable phones may either link the user to Internet e-mail accounts (Yahoo, Gmail) or receive 'push' e-mails which alert users of new messages.
- **Games:** Users can play pre-installed or downloaded games on their phones.
- **Global positioning system:** The global positioning system found in most of the newly manufactured phones tells owners where they exactly are. This can be helpful in emergency cases for locating help services, directions and location-sensitive networks.
- **Instant messages:** Instant messages can be sent and received while chatting with an interlocutor by means of an application, even without web browsing.
- **Live TV:** Users have the possibility to watch their favorite TV programs on their phones directly during the time of their broadcasting on TV.
- **Memory card slot:** Phones with a memory card slot, which is an additional, external flash memory card, enable users to store more data and files in it.
- **Multimedia messaging service (MMS):** The multimedia messaging aspect makes it possible for the user to transfer pictures and videos to whomever he wants.
- **Music:** MP3 players are integrated into phones so that users can listen to music or to the radio.
- **Phone as a modem:** A smart phone can operate as a modem for other devices, e.g., laptops or cell phones, because it can access the Internet everywhere. So, commuters with no access to the web may find the solution in their travel mates' phones.
- **Productivity tools:** The alarm clock, calculator, memos, task lists, calendars and planners all help users to organize their activities and ease their lives.
- **QWERTY keyboard:** Usually, an English- language keyboard is built-in to the phone and is used as an input tool.
- **Short messages service:** Users can exchange text messages instantly thanks to this feature. Texting is almost a daily activity of phone owners; it is the feature mostly used in cell

phones. In fact, millions of short messages are sent and received everyday all over the world. The reason lies in the easiness with which this activity is done. Short messages circulate not only among friends and relatives but also from carriers, websites and other sources to users.

- **Speaker phone:** A speaker phone frees the phone user's hands so that he can do anything while talking to someone else on the other end of the phone.
- **Video:** This feature is responsible for recording and viewing different types of materials: music videos, sport clips, movies, etc. Media players with their transceiving capability can transfer video files from and to other devices such as PCs, tablets and mobiles.
- **Voice dialing:** To call someone, the person needs not to dial the number; he has only to utter aloud the name of the interlocutor for the phone, and this makes the call on the spot.
- **Web enabled:** It is possible for most people, nowadays, to access the Internet either through their carrier-specific interface or the web browsers available on their phones.

3.12 Mobile Phones in Language Learning

In the academic context, m-technologies gained importance and interest for the teaching and learning of different disciplines (Guy, 2010). Among all mobile devices, cell phones are the most frequently used for learning purposes (Naismith et al., 2004), for they are (a) very prestigious, trendy, iconic, and indication of wealth and thus popular among youth (El-Hussein & Cronje, 2010), (b) web-connected and cheaper than other m-devices (Ally, 2009) and (c) full of appendices which are continuously improved (EL-Hussein & Cronje, 2010). Miangah and Nezarat (2012) perceived mobiles as the most powerful tools because they empower learners to access learning contents 'ubiquitously', to have control over the learning process and to advance in this process each at his own rate and cognitive capabilities.

In fact, many projects were run and funded by universities to integrate wireless devices in language learning since 2001, with special focus on mobile phones (Joseph &

Uther, 2009) which are increasingly used in second and foreign language environments (Stockwell, 2010). So far, cell phones have been exploited in teaching and learning all skills of a TL: listening, speaking, reading, and writing. The sections hereafter address these issues.

3.12.1 Listening and Speaking

For a learner of a foreign language, to master the listening and speaking skills is fundamental. Multimedia affordances and applications in cellular phones make them an excellent tool to achieve this objective (Miangah & Nezarat, 2012). Learners can choose among the numerous options of consulting e-dictionaries with their phonetic transcription and audio pronunciation of entries, recording themselves pronouncing words and evaluating their pronunciation against an ideal one for making necessary efforts to improve it (Miangah & Nezarat, 2012). Worth mentioning is that mobile devices assist particularly shy learners in improving their oral skills since they can practice pronunciation in the hide from others' eyes (Kukulska-Hulme, 2013). Besides, the podcasts and audio/visual materials and activities available on audio channels have made listening to foreign languages possible and enjoyable in moments of travelling or waiting (Kukulska-Hulme, 2013)

Joseph and Uther (2009) stressed the value of the voice modality for language students in learning necessary oral skills for understanding and generating intelligible speech. They referred to many means to support listening and speaking, as summed up next.

- **Pronunciation guide:** Mobile device applications can supply 'model' or 'ideal' speech stretches for learners to listen to for training and gradually improving their communication abilities. Learners may start with trying to correctly perceive what is being said first, then they proceed to imitating natives for improved pronunciation and interactive skills.
- **Pronunciation correction:** Some applications can assess a learner's speech samples and give him feedback on his articulation, particularly of difficult consonants or vowels. In this way, the learner would practice his verbal skills till he reaches native-like pronunciation.

- **Pronunciation modeling:** Teachers and material writers may recourse to applications for modeling spoken language for specific groups of learners who experience problems with uttering some sounds. For example, the Spanish find the English vowels difficult to articulate; pronunciation modeling offered by some apps can solve this problem.
- **Perceptual/phonemic discrimination problems:** Perceptual/phonemic discrimination problems result from L1 phonology which hinders the learning of L2 phonology. There are programs and software on mobile devices that deliver instructional content to address these issues and help learners solve them and become more fluent speakers of the TL.
- **Conversational practice to assist fluency:** Mobile phones offer conversational practice with either a real or a virtual trainer. This interaction enhances fluency in foreign learners (Joseph & Uther, 2009).

Demouy and Kukulska-Hulme's experiment (2010, p. 29) on interactive speaking and repetition activities to foster pronunciation and intonation showed that the utilization of mobile phones proved to be a "surprisingly valuable way" to rehearse listening and speaking skills. Participants found MALL 'authentic' or 'realistic' because dealing with listening and speaking tasks on the mobile phone obliged them to respond on the spot without pausing or checking any information they needed to complete the tasks. This is what exactly happens in real-life oral communication where speakers have to listen, comprehend and quickly respond to interlocutors, as Demouy and Kukulska-Hulme (2010) asserted later in their article.

3.12.2 Reading and Writing

Second or foreign language learners have a wide range of opportunities to read in the target language owing to e-books, e-dictionaries, parallel texts, translation tools, electronic newspapers and news channels which are enormous sources of reading materials, in particular for people who commute a lot (Kukulska-Hulme, 2013). On this ground, reading comprehension skills can be enhanced via software installed on the mobile phone, exercises

downloaded to it or SMS sent to students; in addition, listening skills can also be promoted if the text is read out loud to the user by means of text to sound applications (Miangah and Nezarat, 2012).

Wang and Smith (2013) investigated the usefulness of mobiles for teaching reading to Japanese students. The intervention consisted of e-mailing 10 easy-to-understand short essays, each containing about 140 words so that it could be read in no more than two or three minutes on a small screen; a glossary of difficult words translated in Japanese was included, too. Every reading text was followed by a simple comprehension exercise to check students' understanding. The findings demonstrated that 71% of the participants reported to find the project helpful in improving their English reading ability and that they enjoyed the approach of reading content delivered by phone. Subsequently, Wang and Smith listed many gains to using mobile phones for learning reading: the materials sent can be stored, accessed at any time and reviewed as many times as students want, all in a cost effective manner. Nonetheless, the method was not trouble free; students found it difficult to read long texts on small screens as they keep scrolling up and down, and to interact with tutors on mobile phones proved to be less comfortable than on PCs, as well.

In the UNESCO (2014) inclusive investigation of mobile reading, 4,000 people in seven developing countries (Ethiopia, Ghana, India, Kenya, Nigeria, Pakistan and Zimbabwe) were surveyed. The key findings can be squeezed in two points. First, people from different age groups practiced and enjoyed mobile reading more than reading from paper books. Second, mobile reading fought illiteracy of marginalized, poor people and children making it a better and cheaper alternative of conventional instruction.

With regard writing, many tasks are suggested to improve it. For instance, Joseph and Uther (2009) proposed dictation where learners listen to the spoken form of a word given by the application and are asked to write it correctly. This task improves spelling skills. On their

part, Drexler, Dawson and Ferdig (2007) worked on collaborative blogging between students and teachers as a means for writing an expository report. The results were very positive. Thanks to collaborative blogging, students developed more positive attitudes toward writing; they felt more willing to write. Moreover, reading comments and feedback from teachers, fellow students and any web visitors generated excitement in students and increased their motivation to write more. In fact, collaborative blogging helped learners to produce not only more but also better texts; both the quality and quantity of writing improved.

Frankham (2016, p 50) takes “writing with the small, smart screen” of mobile phones to a further level when talking about *cinécriture* where cinema and writing merge i.e. where writing with images, in addition to letters, becomes the norm in the digital era. She wrote: “The phone is my notebook, my mood board, the memory folder where I gather video, sound, still images and jottings of ideas, all to be worked further at a later date. [...] I use it to capture moments of value, exceptionality, whimsy and things that quicken my heart.”

Following his study, Bridgewater (2014) found that text messaging and emailing were the most common forms of writing and reading among students. Yet, they do write and read for other reasons, mainly academic:

- Browsing the Internet or checking scholarly databases, like JSTOR, in search for information.
- cooperating together with classmates for handling schoolwork.
- Taking notes.
- Writing parts of or entire papers or projects for school.

He even found that a few students use their smart phones to brainstorm and revise their academic papers.

The importance of cell phones for vocabulary instruction can be discerned from what has been said above even though no clear indication is given to it. When boosting listening and speaking skills, learners have to attend to word forms and sounds using their e-

dictionaries, and when fostering reading comprehension skills, glossary of difficult words are consulted. Likewise, refining the quality of writing goes through taking care of word meaning and spelling via dictation. In brief, words, the building blocks of a language, are inherently attended to in the course of leaning any other skill. Nonetheless, emphasis in the coming sections is placed on the use of SMS in education, with more careful attention accorded to their use in the teaching and learning of vocabulary.

3.13 SMS and Education

To get a clear picture of SMS uses in education, an explanation of what SMS is, how it operates, and what factors contribute to its success as a messaging platform should be provided first.

3.13.1 The Short Message Service

Le Bodic (2005) presents the Short Message Service as a basic service used to transceive short text messages between subscribers. The first operation took place in 1992 via a European GSM network (Le Bodic, 2005), and SMS transfer did not stop growing ever since. Short messages can be sent from a variety of m-devices supported by GSM handsets and networks and also from Internet hosts and telex, and they can be transmitted between consumers, companies and operators. Any devices which can send and receive SMS are called Short Message Entities (SME), Le Bodic added. A short message was initially intended to comprise a limited number of letters (160 characters and spaces), but its capacities were enhanced later on (Hillebrand, 2010).

Describing the messaging operation, Le Bodic (2005) states that the mobile user who wants to send a message composes it using the keyboard. Once the message is written, the person enters the phone number of the addressee and sends it to the serving network which transfers it to the recipient mobile network. The message is transmitted on the spot if the receiver's phone is accessible, and the person is notified that a new message has arrived. If the

recipient cellular is switched off or out of coverage, the message is held in reserve by the network waiting for the mobile phone to become available again, but the message is kept only for a short time.

3.13.2 SMS Basic Features

Message submission, message delivery, handling of status reports, requests for command execution, and reply path are the most important features of SMS (Le Bodic, 2005). Submission of messages is one of the basic features for which the short message service was intended. Le Bodic (2005) explained that short messages are composed by an originator entity, a user in short, and transferred from a mobile station to an SMS Centre (SMSC). The latter transmits messages between entities, or stores and forwards them later if the recipient is not accessible. This type of messages is also described as short message mobile originated because they are initiated via the mobile device and addressed to some other devices or recipients. Message delivery is another basic feature of short message service (Le Bodic, 2005). On the contrary to a submission message, a delivery message, or short message mobile terminated, is sent from the SMSC to the recipient entity, or a receiver. These messages can be transceived by way of GSM or GPRS (Hillebrand, 2010).

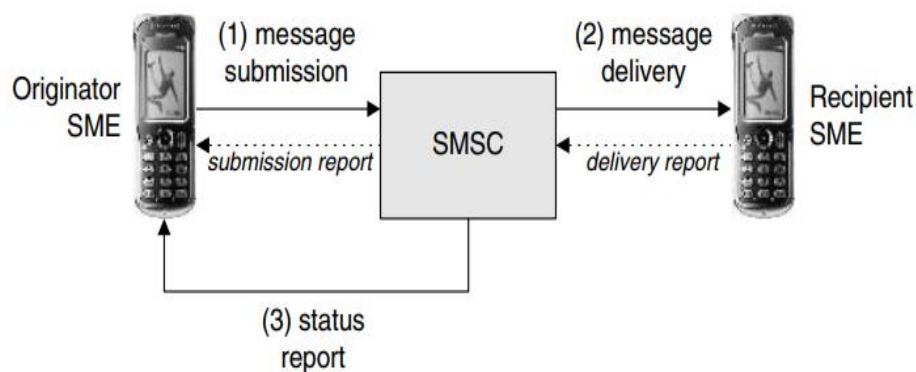
In addition, when sending a message, the subscriber can request a status report which informs him whether the addressee has successfully received the short message sent to him or not. Also, operators usually utilize the reply path feature to allow the message recipient provide a free-of-charge reply message for an original message (Hillebrand, 2010). Another feature Le Bodic (2005) refers to is the validity period. A message sender can decide about a period of validity for a message after which the message is removed if not transmitted to the recipient. If the message originator does not indicate any expiry date, the message will also be eliminated but this time after the validity period set by default by the mobile network itself, for example 3 days. And they can use many modes for addressing message recipients. The

most common addressing mode consists of using the Mobile Station ISDN Number format (Le Bodic, 2005). Users can send a message to different addressees at the same time by creating distribution lists. After composing the message and a distribution list is configured, the user can send it. The network creates as many copies of the message as recipients and delivers them at once to the receivers. This operation saves originators time and effort and causes a more efficient utilization of the network resources. The message originator is still charged for the number of copies as if he submitted them separately one after the other (Le Bodic, 2005).

The operation of message transmission between two subscribers is schematized by Le Bodic (2005) in Figure 3.2.

Figure 3.2

Message Transfer between Two Short Message Entities (From Le Bodic, 2005, p. 59)



3.13.3 Success Factors of SMS

Hillebrand (2010) claimed that SMS is well-liked because it is simple and practical; it is written, sent and received in a short time. In this regard, it outdoes any fixed-network messaging such as email because users are not obliged to sit down in a fixed place to send a message. SMS is also convenient; it can be stored in the receiver's as well as the sender's phones for rereading or resending them if the recipient was not available in the first sending (Hillebrand, 2010). Moreover, SMS is unintrusive for the sender and recipient, so it is socially more satisfactory than voice calls. For network providers, SMS is price-efficient; they can put

this service into work with a limited fund, and they make quite a lot of money out of it. SMS is executed in every mobile station and network because its implementation is compulsory by an agreement between network providers and manufacturers, which results in a worldwide spread and success (Hillebrand, 2010).

3.14 SMS Modes Used in Education

Among all cell phone affordances, Short Message Service (SMS) is the most frequently used by people in general and **students in particular as they have become passionate text writers (Lomine & Buckingham, 2009).** When defining SMS, Peters (2009, p.115) contended that “SMS is texting via mobile phones” and pointed out that it is “a pervasive communication tool on its right.”

Three modes for SMS use in mobile learning are identified in the literature.

1. The push mode: So (2009) and Unwin (2015) observed that SMS can be exploited in education to fulfill two purposes: a means of learning or a medium of communication. Mellow (2005) explicated that push messages are received by students from either the administration or the teachers, and they are the most commonly utilized in education. Push messaging in **Lomine and Buckingham’s expression (2009) is ‘direct teaching’ whereby mini lessons, vocabulary items, learning activities, evaluation quizzes and revision exercises are sent to learners via the short message service.**

Lomine and Buckingham (2009) also referred to teaching-related uses of SMS. In this case, the short messages do not carry purely teaching content, but content that relates to teaching indirectly, like when students receive messages with individualized support, encouragement and even notifications to check email or to visit web pages for longer materials. In the push mode, it is the teacher who is in command of the frequency, timing and any repetitions of messages forwarded to learners (**Lomine & Buckingham, 2009**). Peters (2009) mentioned the use of push messages for administrative purposes. They offer instant

contact and communication of different bits of information to students viz., reminders about key dates and deadlines, class cancellations and room changes, exam updates and assignments submission, etc. So (2009), on his part, discerned library applications whereby notifications are sent to students about book reservations, renewals and overdue books.

2. The pull mode: Pull messages are ordered by students who seek particular information “on a menu of all listed content on a web page or a paper handout” (Mellow, 2005, p. 471). Mellow maintained that students do use the pull system but not for educational purposes; they use it mainly for requesting ringtones, screen themes and games.

3. The interactive mode: Interactive messages can be pushed or pulled. They circulate between teachers and students carrying questions, answers, feedback on lectures, ideas and projects (**Lomine and** Buckingham, 2009). The interactive model is employed only intermittently in education.

3.15 A Framework for Using SMS in Education

Song (2008) stressed the fact that any instruction via m-devices would not be successful unless pedagogy, learner needs and constraints of the technology are carefully pondered about. More elaboration of this issue in the context of implementing SMS-based instruction was done by (**Lomine and** Buckingham (2009). They advocated the P-E-T (Pedagogy-Economics-Technology) framework:

- **Pedagogy:** Technology should be used not because it exists but because it serves particular purposes. In other words, educational objectives should be set at the beginning of any pedagogical intervention with SMS, taking into account students’ demographics, needs and learning styles.
- **Economics:** The cost of SMS use has to be kept to the minimum for both teachers and students. It is possible to make capital of the packages of unlimited SMS or schemes for

buying bulk SMS offered by some networks, especially if students are supposed to answer back teachers' messages.

- Technology: It is inevitable to use technology that all students have. Fortunately, existing phones come with the SMS affordance. This makes them convenient for mobile education.

3.16 SMS and Vocabulary Teaching

Vocabulary learning is the area most popular when it comes to teaching through various technologies (Stockwell, 2007) and applications (Kukulska-Hulme, 2013). Miangah and Nezarat (2012) remarked that many studies were conducted in this respect; the most common way was to send text messages with vocabulary items to students to help them acquire them. More than often, these studies yielded positive outcomes in terms of word learning and retention. Several merits of SMS use in education and vocabulary instruction, specially, are determined by researchers. These are reported as follows.

- SMS is easy to operate and requires no training on how to use it; moreover, it affords for immediate transfer of information to students where they are at any time (Song, 2008).
- SMS is fast, discreet, concise and low-cost and allows students to ask for help and advice (*Lomine & Buckingham, 2009*).
- The functionality of SMS enables teachers and students to exchange information with complete ease (Miangah & Nezarat, 2012), and it is preferred by students in different disciplines and settings (Kennedy & Levy, 2008).
- SMS increases motivation and retention of data by learners (Peters, 2009).
- SMS delivery of learning significantly correlates with more positive levels of attitudinal and affective variables such as learner self-esteem, learner attribution and learner technological efficacy (Katz, 2014).
- Kennedy and Levy (2008, p. 316) specifically perceived “the potential of SMS messages particularly for helping language learners build their command of vocabulary.”

- So (2009) substantiated the efficiency of SMS for vocabulary learning because short messages can be sent and available for learners in a short and snappy way, and the learning process here is neither interrupting nor disturbing as in the case of other audio or video means.
- When compared to other content delivery methods such as email, hardcopy or Facebook, students who received their vocabulary or concept definitions via SMS showed drastically more positive pedagogical as well as psychological attitudes toward their learning method (Katz, 2015).
- “Using this technology makes learning vocabularies much easier because without limitation of time or place you can send a message to each student and teach him or her some useful English vocabulary.” (Etela, 2018, p. 36)

3.17 Empirical Evidence of the Effectiveness of SMS for Learning Vocabulary

Among the numerous research papers and studies dealing with SMS and vocabulary learning, only some will be highlighted in this study not only because they are oft cited in the literature but also because they took place in an EFL context, similar to ours.

In their ‘Learning on the Move’ project, Thornton and Houser (2005) investigated the usefulness of SMS in learning vocabulary by Japanese university students. At three fixed times of the day, students received short messages with mini lessons about a single word, its aspects, instances of use and an episode of a serialized story including the target word and reviewing words learned earlier. In this way, five words were introduced each week. Pre- and post-tests were held every fortnight. The results demonstrated that students not only liked this mode of learning but also acquired a lot of English vocabulary items.

English was not the only language investigated but other languages as well. Italian at an Australian university is a case in point. Kennedy and Levy’s project (2005) consisted of sending “push” SMS to third-year Australian students of Italian. Definitions of unfamiliar

words and examples of use were sent to the students at spaced intervals in between regular lessons and tutorials, over a period of seven weeks. The words were selected from the novel the students study in the Italian course. The SMS platform suited vocabulary learning both in terms of word knowledge and enjoyment of SMS reception. These results were confirmed by Levy and Kennedy's study of 2008 entitled 'Italian on your mobile' where they experimented with beginners. The latter positively received SMS learning and gained knowledge of vocabulary items.

Two groups of 15 students participated in Lu's study (2008). Lu followed a counter-balanced, within-subjects design where two groups exchanged media: SMS and paper. They had to learn 28 target words in two weeks. In the first part of the experiment, half of the participants received two SMS lessons every day, at 7 am and 5 pm, during their travel time. They were recommended to read the messages as many times as they could. The other half was required to study identical materials on paper on Monday mornings. In the second part of the experiment, the SMS group used paper and the paper group switched to SMS. Overall, the SMS group reached better vocabulary gains than their paper-group counterparts, in the immediate post-test. Another important finding was the positive correlation between frequency of SMS reading and vocabulary learning. The more times students read the messages; the greater gains they attained. Furthermore, subjects considered learning vocabulary via SMS as practical, motivating and preferred as they were able to learn by heart the vocabulary in the SMS lessons more easily than with the traditional paper lessons.

Two Iranian studies are frequently quoted when talking about the effectiveness of SMS vocabulary learning on university students' vocabulary retention and reading comprehension: Motallebzadeh and Ganjali's (2011) and Alemi and Lari's (2012) studies. Motallebzadeh and Ganjali (2011) worked with forty university students. Three times a week on even days at 9.00 p.m, the experimental group was sent short messages including three or

four words with their definitions and example sentences. The control group was taught the words through the traditional board and paper method for the same period. In this way, both groups dealt with 50 English words over a five-week period. The findings indicated that the SMS group performed significantly better than the control group both in reading comprehension and learning vocabulary per se.

For 16 weeks, Alemi and Lari (2012) taught 320 headwords of the ‘Academic Word List’ (compiled by Coxhead in 2000) to two groups of freshmen students: experimental group via SMS and the control group by means of a dictionary. After the treatment, both groups took a post-test on reading comprehension. The results revealed that the experimental (SMS) group did better than the control (dictionary) group in reading comprehension because they learned more vocabulary items.

The four researchers conclude that teachers should consider the use of SMS in vocabulary and reading instruction, for it has the potential to promote learners’ vocabulary knowledge which, in its turn, leads to enhancing their reading performance.

Conclusion

Practitioners in the teaching of languages tried to make use of any new technology, starting with computers and ending with mobile phones, passing through laptops and the Internet; therefore, moving from e-learning to m-learning. On the way, theorist and practitioners proposed theories and practices which they thought to be the best to understand and actually utilize mobile learning in the language classroom. Different aspects of the mobile phones are used to this end, namely applications, MMS and SMS. The latter disposes of myriad possibilities for vocabulary teaching and learning that need to be exploited to the full.

CHAPTER FOUR: RESEARCH TOOLS AND PROCEDURES

Introduction

The present study is conducted to investigate the effects of three vocabulary instructional methods, namely word-focused activities, short messages and their combination, on participants' receptive and productive knowledge of the instructed words. To answer the questions this research addresses, a field work is carried out through a number of steps. Firstly, an experiment is run following the pre-test/post-test design; next, a retrospective questionnaire is administered to have participants reflect on and evaluate their learning of the target words. This chapter accounts for the stages the empirical work went through. It includes a summary of the pilot study and detailed descriptions of the sample involved, the research design selected, the instruments and materials used, the procedures followed to collect data, and the statistical tests used to analyze these data.

4.1 The Pilot Study

In the academic year 2018-2019, the researcher has conducted a pilot experiment following the same steps of the present study, described below. The participants were pre-tested, instructed, post tested, and they also responded to the questionnaires. The pilot study was very useful; few but significant changes ensued. They related to different aspects of the experiment and the questionnaire. Next is a summary of the modifications that the researcher brought in the current study.

1. The receptive vocabulary test format has been altered. Initially, the new Vocabulary Levels Test was used. This new version is suggested by McLean and Brandon in their article "The Creation of a New Vocabulary Levels Test" in 2015. The items in this version are designed as follows:

1 Time: they have a lot of <time>.

- a. money
- b. food
- c. hours
- d. friends

The researcher followed this example and designed a test embedding the targeted words, but she noticed that the context, no matter how much she tried to keep it ambiguous and non-revelatory of the word's meaning, helped learners to guess correctly some of the words. Therefore, she opted for the old version of the Vocabulary Levels Test (VLT) created by Nation in 1983. An item in the test looks like:

- 1 business
- 2 clock _____ part of a house
- 3 horse _____ animal with four legs
- 4 pencil _____ something used for writing
- 5 shoe
- 6 wall

This format does not rely to any degree on students' guessing skills, which we are not interested in testing at all. Instead, it directly gauges their receptive knowledge of the words in question.

2. With regard the activities, one type is substituted for another: matching halves of sentences is replaced by banked gap filling. The former, as in the example below, proved to be very easy for students while the latter is more thought stimulating.

Task: Choose the best ending for each of the sentence extracts below from the list underneath:

1. The murder was a very strange case but the most striking **aspect...**

2. You need at least four to six months in a country in order to have a **significant...**

3. Ren-Descartes stated, I think, **hence ...**

4. The European Union has issued guidelines on **appropriate...**

5. My mother did not find it easy to **adjust...**

a. ... I am.

b. ... to work after ten years as a housewife .

c. ... was the fact that the killers were both under 10 years old.

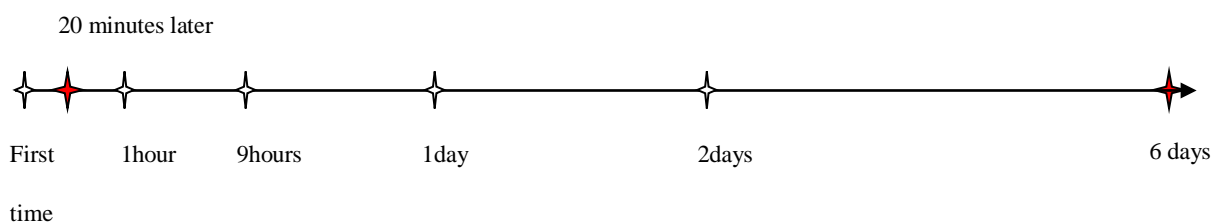
d. ... levels of pay for part-time manual workers.

e. opportunity to improve your skills in a second language.

3. As far as SMS are concerned, frequency of SMS sending is reduced. In response to the questionnaire, the students complained about the huge number of short messages they received, so for each set of words, students will receive five SMS instead of seven. The second repetition at 20 minutes and the seventh repetition of the sixth day are omitted.

Figure 4.1

Frequency of SMS Sending in the Pilot Study



NB: The red stars refer to the messages that have been left out in the actual experiment.

4. Some items of the questionnaire were reformulated as they were not clear enough, and others were deleted as they were repetitive.

5. The researcher projected to use an SMS deliverer in the experiment, and this is a piece of software that sends bulk short messages to mobile phones from a computer on the condition that both devices are web-enabled. However, not all students were connected to the internet by means of their phones, and even those who had connection did not have it all the time. Hence, the researcher had to send the messages via mobile networks, a safer way to get all students receive the push messages on time.

4.2 Participants

Participants in this study are first-year students enrolled in the Department of English at Frères Mentouri University of Constantine 1, for the academic year 2019-2020. Initially, 75 students took part in the experiment, but later on 12 students were discarded as they did not sit for the pre- or post- test, or they already know many of the words targeted for instruction. Thus, the actual sample of this study comprises 60 students; 13 males and 47 females who are of the same age group (18-20) and the same scholastic background where they have been studying English for at least seven years.

As far as random sampling is concerned, we took three groups as formed by the department because students are allocated to them randomly, already. Each of the three groups is assigned to a particular treatment: one to the SMS plus word-focused activities (SMS+Activities hereafter) condition, another to the word-focused activities condition (activities hereafter), and the third to the SMS condition. The intervention took place in ‘written expression’ sessions where the researcher/teacher taught vocabulary to the SMS+Activities and word-focused activities groups using these methods. The SMS group is taught ‘written expression’ by another teacher. In this way, it is ensured that the researcher/teacher will not transfer any knowledge from other methods to the SMS group; teaching is solely SMS based.

Freshmen are selected because it is at this stage that they need to learn a lot of vocabulary items to cope with the demands of university study and discourse. Besides, m-learning presented in the use of SMS is likely to be a new, interesting experience for them.

4.3 Research Design

The present study is intended to investigate the effects of different instructional methods on vocabulary gains; in so doing, a true experimental design is implemented: the pre-test/post-test comparison group design. Tavakoli (2012) describes this design as a true experiment that looks not only into the cause-effect relationship between variables but also into the degree of change independent variables (IVs) have on dependent variables (DVs). That is to say, different experimental groups receive different treatments; then comparisons are made between the effects IVs produce on DVs. Tavakoli (2012, p. 487) schematizes this design like this:

Experimental Group1 (R)	O	X 1	O
Experimental Group2 (R)	O	X 2	O

where:

R = participants are randomly assigned to each group

O = pretests and post-tests

X₁ = treatment 1

X₂ = treatment 2

For investigating the impact of the independent variables (IVs: word-focused activities, short messages, and their combination) on the dependent variables (DVs: learners'

receptive and productive vocabulary knowledge), this design is selected because it is a powerful design; it is characterized by random selection of subjects and random assignment of subjects to experimental groups, first. Second, it fits the nature of the topic under consideration where comparisons are to be established between various teaching methods.

4.4 Instrumentation

In the course of this study, a variety of tools were used to collect data. There are the vocabulary knowledge tests, statistical tests and sources for word definitions and sentences. In the sections that follow, we provide descriptions of these instruments along with justifications for selecting them in the carrying out of this research.

4.4.1 Vocabulary Knowledge Tests

In order to check whether or not the intervention was of any help for enhancing participants' vocabulary knowledge, their performance had to be measured before and after the treatments. For this reason, two types of tests are needed: one for receptive knowledge and another for the productive one. The tests of interest here are The Receptive Vocabulary Levels Test (VLT) by Nation (1983) and The Productive Vocabulary Levels Test (PVLVT) by Nation and Laufer (1999). Next are descriptions of both tests.

4.4.1.1 Receptive Vocabulary Levels Test

The VLT is a test designed by Paul Nation, an authority in vocabulary research, in the early 1980s. The VLT initial format was used for decades then adaptations and variations were made. In 1983, Nation introduced the VLT, and he described it as follows. The test is divided into many sections; each includes 6 words and 3 definitions only. Testees have to match 3 words to 3 definitions by writing the number of the word next to its corresponding meaning. The remaining words are distractors. An answered item of VLT looks like this (Nation 1983: 19):

1-business

2-clock

3-horse ____6____ part of a house

4-pencil ____3____ animal with four legs

5-shoe ____4____ something used for writing

6-wall

The test is designed, Nation specified, following these guidelines:

- a. Each item represents all other words that belong to the same level of frequency.
- b. No proper nouns such as names of people or countries are included in the test.
- c. The distractors should be of the same difficulty and frequency as the tested words.
- d. The definitions should be stated in easier, more common words than the tested items themselves.
- e. The test is better to be used with learners' whose first language has no Latin roots common with English such as Spanish or French in order to prevent guessing from cognates.

The words Nation (1983) selected belong to four frequency levels: 2,000, 3,000, 5,000 and 10,000 most frequent English words in addition to another test specific to academic vocabulary. Schmitt (2000), a vocabulary expert, asserted Nation's VLT to be well-established and the best in its genre. Read (2000) qualified it as an innovation in vocabulary testing that exhibits some aspects of interest, for which it has become well-known and used by teachers for the purpose of estimating students' vocabulary size and diagnosing their weaknesses. The VLT is fairly well-backed up by theory as research has proved it to be a valid test as it measures what it is intended to measure and thus it has been extensively used in research projects since it was developed in 1983 (Cobb, 2000).

4.4.1.2 The Productive Vocabulary Levels Test

Based on the receptive VLT, Nation in collaboration with Laufer devised a test for productive knowledge in 1999 and called it The Productive Vocabulary Levels Test (PVLТ) for controlled production of vocabulary. The format of the test as illustrated in the example:

The book covers a series of isolated epis_____ history.

is intended to elicit particular words from test takers, ‘episodes’ here (Nation and Laufer, 1999: 37).

The requirements for designing the PVLТ as stated by Nation and Laufer (1999) are the following:

- a. Each item in the test consists of a sentence comprising only one target word.
- b. The first letters of the tested word are supplied to rule out any other possible words which may fit in the context but are not targeted by the tester.
- c. The minimum number of the letters supplied is the best, but this depends on alternatives. As an illustration, let’s take the word ‘comprehensive’. The researcher was obliged to provide 5 letters not less: compr_____ in order to avoid having ‘complete’ in answer, which is not a wrong answer.
- d. The space left at the end of the tested word should give no hint as to its length or number of the missing letters.

The PVLТ reliability, validity and practicality are proved via different measures to which the designers submitted the test. Nation and Laufer asserted that the PVLТ can be used to search different features of vocabulary, especially breadth of knowledge, how it develops over the years, and which instructional methods enhance it the most.

It is worth mentioning that the tests assess students' knowledge of words at a given level. However, in the current study interest is not in word frequency but in method efficacy regards of the level of frequency the target words belong to. That is why the researcher has taken words from different levels and designed two tests modeled on the VLT and PVL; they embedded the target words while trying to satisfy the requirements set by the test developers as much as possible. The tests are chosen for use here because, for one thing, they are practical in that they are easy to write, administer and correct in a time-efficient manner. For another thing, they are reliable, valid and widely used in vocabulary, teaching, assessment and research. Grading in either test is done by giving (or not) each answer one point, which gives a total score equal to the number of right answers; no answer carries half or quarter a point. For the receptive test, a correct match between word and definition receives 1 mark. For the productive test, each correct completion of a word (addition of missing letters at the end of the word) is scored on 1 mark, too. Grammatical mistakes are not taken into account; for instance, using the wrong part of speech (e.g., emphasis for emphasize) or the wrong tense (e.g., emphasize for emphasizes). Likewise, misspellings were ignored as far as they stay minor in the sense that the pronunciation of the misspelled word remains close to that of the tested word like in 'percieve for perceive' or 'adjacent for adjacent'.

4.4.2 Statistical Tests

Any analyses of the findings based on pre- and post tests remain descriptive if not backed up by statistical testing giving them more powerful scientific validation. The statistical tests needed in this study are the paired-samples t test, also known as the dependent samples t test and the one-way ANOVA (Analysis of Variance) test. What the tests are and why they are of use in this study are issues discussed next.

4.4.2.1 The t-test

The t test is a parametric test used for testing a hypothesis to either confirm or reject it. In fact, it is widely used by researchers in different domains, social, economical and clinical for validating or not a cause-effect relationship between the independent variable(s) and the dependent variable(s) because it is one of the most robust statistics (Hatch and Lazaraton, 1991).

Moreover, for the repeated measures designs such as pretest-post-test design, the paired-samples t test is the most common statistical test in applied linguistics research where the means of the same group before and after the treatment are compared (Hatch and Lazaraton, 1991). In the present study, applying the paired-samples t test procedure will help us prove that any improvement in the post-test participants' scores (DV) is caused by the manipulation of the instruction type (IV) and not to any interference of chance.

The paired t-test formula is

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s_{\bar{D}}}$$

Where:

\bar{X}_1 = the mean of group 1 (or mean of measurement 1: pre-test)

\bar{X}_2 = the mean of group 2 (or mean of measurement 2: post-test)

$s_{\bar{D}}$ = The standard error of differences between the two means from the same sample (or from matched pairs)

With regard the interpretation of the t-test statistics, we reject the null hypothesis:

H₀: there is no difference between the pre-test and post-test means,

and we accept the alternative hypothesis:

H_1 : there is a difference between the pre-test and post-test means.

if the calculated absolute value of t is greater than the critical one, or if the computed p -value is smaller than the significance level (α) selected. Otherwise, the opposite is true.

4.4.2.2 The ANOVA Test

In case three or more groups take part in an experiment, the t test procedure cannot be used by the researcher to make multiple comparisons between the groups' means (e.g., between means 1 and 2, means 2 and 3, means 2 and 3 and so on) (Hatch and Lazaraton, 1991). Another test is more valid in this case: the ANOVA test.

Like the t test, the ANOVA is reputed for being both a 'powerful and versatile' test for making simultaneous comparisons between several group means (Hatch and Lazaraton, 1991, p. 308). The one-way ANOVA test formula is:

$$f = \frac{\frac{ssb}{g - 1}}{\frac{ssw}{n - g}} = \frac{msb}{msw}$$

Where:

$f = F$ ratio for a One-way ANOVA

ssb = between sum of squares

$g - 1$ = degrees of freedom of the between sum of squares ssb

ssw = within sum of squares

$n - g$ = degrees of freedom of the within sum of squares ssw

msb = between-group variance

msw = within group variance

When interpreting the results of the one-way analysis of variance, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) accepted if the computed test statistic is greater than the critical value. If the opposite is true, the null hypothesis is accepted and the alternative hypothesis is rejected. The two hypotheses are formulated as follows

H_0 : the means of all the groups are equal

H_1 : at least two means are different

4.4.2.3 Scheffé Post Hoc Test

In case no difference between the means is detected by the ANOVA procedure, the statistical testing stops at this point. However, if a difference is indicated, a post hoc test should be computed next because the ANOVA procedure signals the difference but does not specify which groups differ. A post hoc test locates where the differences lie (Hatch & Lazaraton, 1991).

There are many post hoc tests such as Scheffé, Bonferroni, Tukey and Duncan, among others. In the current study, Scheffe test is chosen for pairwise comparisons between the means because it allows for a “very powerful testing of grouped means against other grouped means” (Hatch & Lazaraton, 1991, p. 330). In addition, “it is very *conservative*. That is, it has enormous protection against TYPE I ERRORS, because it was designed for the situation where the researcher wishes to make all possible pairwise comparisons” (Tavakoli, 2012, p. 571)

Due to the relatively small number of participants (20) under each condition, the researcher submitted the set of data to both the parametric ANOVA test and the non-parametric ANOVA on ranks (or Kruskal Wallis test). The results of both tests led to the same

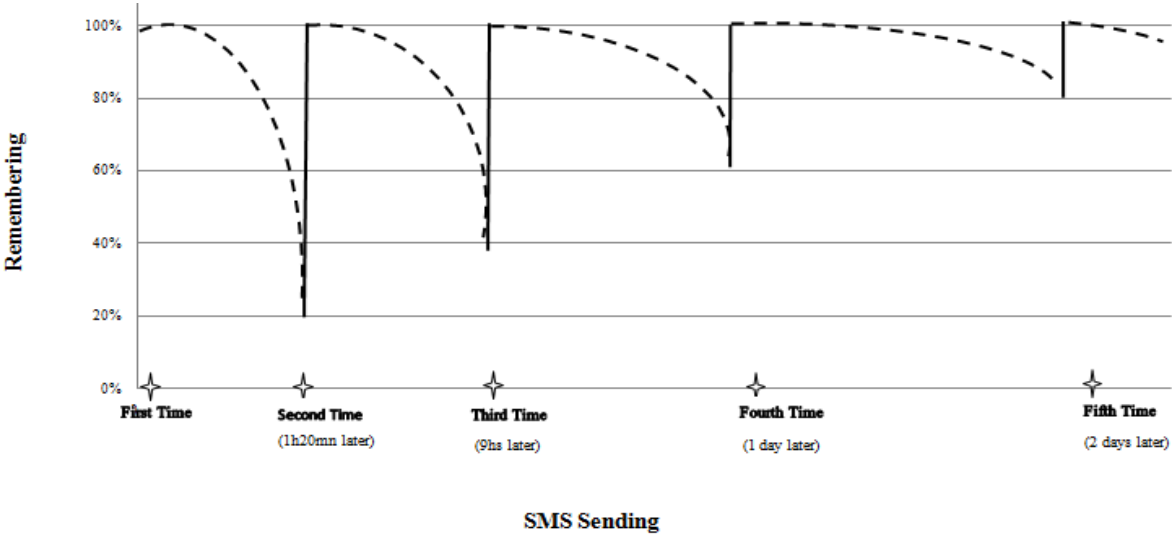
conclusions about the differences in the means. Hence, the researcher opted for the parametric ANOVA test. The same decision was made for the t-test.

4.4.3 Forgetting Curve

Ebbinghaus’ forgetting curve, discussed in chapter one, is used in the current study to provide the spacing lags at which SMS are sent to students. Following this curve, forgetting happens at specific points of time, and re-learning should occur at these points in order to combat forgetting and ascertain remembering. Therefore, learners received each set of words via SMS repeatedly with respect to the curve, as demonstrated in the figure below

Figure 4.2

Space Lags for SMS Repeated Sending to Avoid Forgetting



4.4.4 Sources of Sentences and Words Definitions

Before presenting the sources where target words were obtained from, it would be wiser to detail, first, how the words were selected for instruction. The process of word selection went through the following steps:

- The sources of the words considered in this study are The Academic Word List (Coxhead, 2000) and the General Service List (cambridge.org). The lists are matched, and the common words to both lists are identified.
- Among the latter, words that the researcher thought were easy or known to students are eliminated e.g., job, adult, calculator, computer, absence, able, text, technology, about, ect.
- Similarly, words the researcher viewed as less frequent and more specialist are discarded e.g., formula, equation, qualitative, barrel, ethnic, liberal, estate, hypothesis, basin, etc.
- Also, words more or less similar in meaning are reduced; only one is kept e.g., revenue and income, feature and aspect, evident and obvious, exhibit and display, concept and notion, comprise, consist and constitute, considerable and significant, standards and criteria, predict and anticipate, integrate and incorporate, assist and aid, adapt and adjust, emphasis and focus, sequence and series, fundamental, crucial, and principal, etc.
- Among the remaining possibilities, only 33 words are comprised in the pretest because the researcher/teacher, based on her experience, deemed them of interest and utility for students.
- A last step in word selection consisted in keeping only 20 words out of 33, just preceding the treatment as reported later in more detail.

After, deciding which words to teach, search for necessary sources followed. In fact, all the word definitions and sentences used in the activities and short messages are taken from a number of sources:

1- **Internet Sites:** Two internet sites whose URLs are

<https://wordsinasentence.com/> and <https://sentencedict.com/>.

were visited, for they provide sentences from the Corpus, including quotes, proverbs, and sayings of wisdom. In either site, you can type a given word in the search box, click on the search button, and you get tens of example sentences with this word.

2- **Electronic Dictionaries:** Several electronic dictionaries were also very helpful in this study. First, they supplied the researcher with the meanings and example sentences of target words to SMS to students. Second, they also provided a number of additional instances of use taken from the Corpus, similar to those found in the internet sites. The e-dictionaries utilized in this study are applications free for download at Google Play Store where the researcher got them. Longman Dictionary of Contemporary English, English Learner's Dictionary and Merriam-Webster Dictionary were selected for use because they included simple, easy definitions and examples for students to grasp. Besides, the electronic Oxford Collocations Dictionary is consulted to pick up the alternatives of the MCQs to make sure that they fit the context. The two sites and the dictionaries provided the researcher with the sentences used in the word-focused activities and short messages. They were the sources of the pre- and post-tests sentences as well.

It is noteworthy that the researcher has brought slight changes to a few sentences, at the level of vocabulary, grammar or overall meaning in order to make them match the students' intermediate level. The changes consist of revising long and complicated statements and generating simpler versions of them, substituting a word for an easier synonym, changing the part of speech of a given word, or just adding the profession of a famous person mentioned in the sentence. All these modifications are intended to facilitate comprehension and have students focus their attention on how the targeted words work in varied examples.

4.4.5 The Questionnaires

Three questionnaires are used in the current study to collect data about students' perceptions of and attitudes towards the different instructional methods. Each questionnaire includes items specific to one method. The questions were close-ended requiring informants to choose among MCQ options or close-ended necessitating full statements on the part of students. The questionnaire designed to the activities group (Appendix E) includes items related to the adequacy of the following: the number of the activities (Q1) time spent on the activities (Q2), the number of the words per session (Q3). Students were also asked to say if they found the activities varied or not (Q4) and determine which individual activities were effective for them to learn vocabulary (Q5). Besides, they had to identify the advantages (Q6) and disadvantages (Q7) of the methods to be able to evaluate it as a whole (Q8). Also, the informants were requested to tell what they liked (Q9) and did not like (Q10) about word-focused activities as a way to learn new words. At last, they were invited to add any comments or suggestions about word-focused activities as a way to learn new vocabulary (Q11).

The questionnaire devised to the SMS group (Appendix F) comprises items about participants' use of SMS in daily life in general (Q1) and in study-related issues in particular (Q2). Then come items about when (Q3) and how often (Q4 and Q5) participants read each SMS, and which part they read (Q6). Questions about the evaluation of SMS based instruction dealt with the adequacy of SMS reception time (Q7), the number of words per SMS (Q8), the number of repetitions of each SMS for memorization (Q9) along with other items about the method's advantages (Q10), disadvantages (Q11) and effectiveness in general (Q12). Furthermore, there is a question about the language aspects to learn preferably via SMS in the future (Q13). Then, students had to list the things they liked about SMS-based learning (Q14)

and the things they did not like about it (Q15). Further comments and suggestions are elicited in the last item (Q16).

The questionnaire intended for the SMS+Activities group (Appendix G) consists of 19 items from the two questionnaires described above along with three more items about combining the SMS-based and word-focused activities in one blended method: comparing SMS and activities (Q17), effectiveness of the blended method (Q18) and preferred way for future instruction (Q 19).

4.5 Procedures

The experiment went through three phases, specifically the pre-test, treatment and post-test. Each step is comprehensively portrayed in what follows.

4.5.1 The Pre-test

The pretest was administered in an ordinary writing session. The productive knowledge test was distributed first in a separate sheet of paper. After the participants have completely finished the productive test and submitted their papers, they answered the receptive test questions in another separate sheet. The rationale behind this order was that if the receptive test was administered first, students would meet the words and could use them in answer to the productive test afterward. Hence, this way helped make sure that students' right answers in the productive test result from their prior knowledge of the words and not from being presented to them a few minutes earlier in the receptive test.

The questions were explained, clarifications provided, and students given the time necessary to answer the questions (about 90 minutes). At the end, the papers were collected for correction and analysis. The distribution of participants over groups was the following: 23 participants in the SMS group, 28 in the activities group and 24 in the SMS plus activities group, giving a total of 75 participants.

4.5.2 The Treatments

Each group of participants received instruction in twenty target words during nearly two weeks but following different methods. The words were divided into sets of 4; the students dealt with one set at a time through word-focused activities, short messages or a combination of both. Before embarking on the study, all participants were informed that they were going to receive instruction on some vocabulary items to have them enrich their word banks as part of the syllabus. They were not informed that they take part in a study, nor were they informed that they would sit for a test after the treatment in fear of having them try to learn the words by heart which conflicted with the aim of this study: investigating *unintentional* vocabulary learning. The latter is determined by the fact that subjects should have no knowledge of the upcoming (post)test and should not expect it (Laufer, 2010; Hulstijn, 2001).

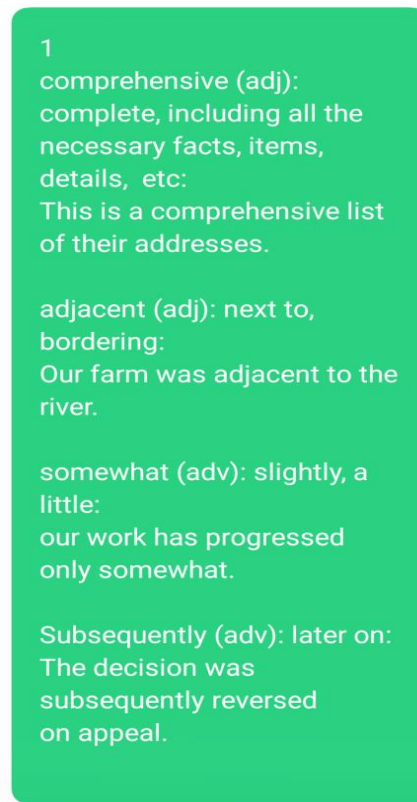
Besides, students in the SMS and SMS plus activities groups were told that they were going to learn these words via SMS and asked them if it were possible to give her their phone numbers and to receive messages with the target words throughout the day. They consented. Their phone numbers were collected and stored in the researcher's cellular in groups according to the mobile network students were subscribed to. More precisely, students' phone numbers coming from Djazzy and Ooredoo SIM (Subscriber Identification Module) card providers were grouped together because only few students were subscribed to Ooredoo carrier, and those from Mobilis formed a second group, with a view of benefiting from cheaper tariffs when sending SMS to the same carrier because of bulk SMS they offered.

4.5.2.1 Teaching Vocabulary to the SMS Group

Learners in the SMS group received push messages with the instructed words, their parts of speech, definitions and example sentences, as in the example below:

Figure 4.3

Screenshot of One Vocabulary SMS

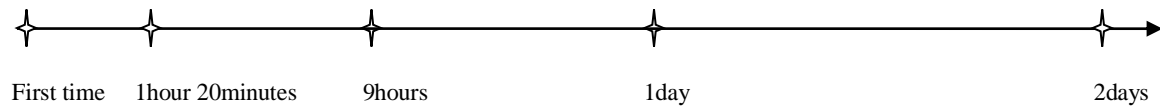


The twenty words are split into five SMS with a set of four words each. Every SMS is sent to students five times in four days, which makes them receive 25 SMS over two weeks' time in total.

The timing of the repetitions was based on the intervals provided in the Ebbinghaus' forgetting curve replicated successfully in 2015 by Murre and Dros (See Chapter one), with adaptation though. Following the findings of the pilot study, the total number of SMS of the same set of words was reduced from seven to five. The second message is sent one hour and twenty minutes after the first one (instead of 20 minutes in the pilot study), the third 9 hours after the second, the fourth 24 hours later, and the fifth 48 hours after the fourth, as schematized in the timeline below.

Figure 4.4

Timing of SMS Sending

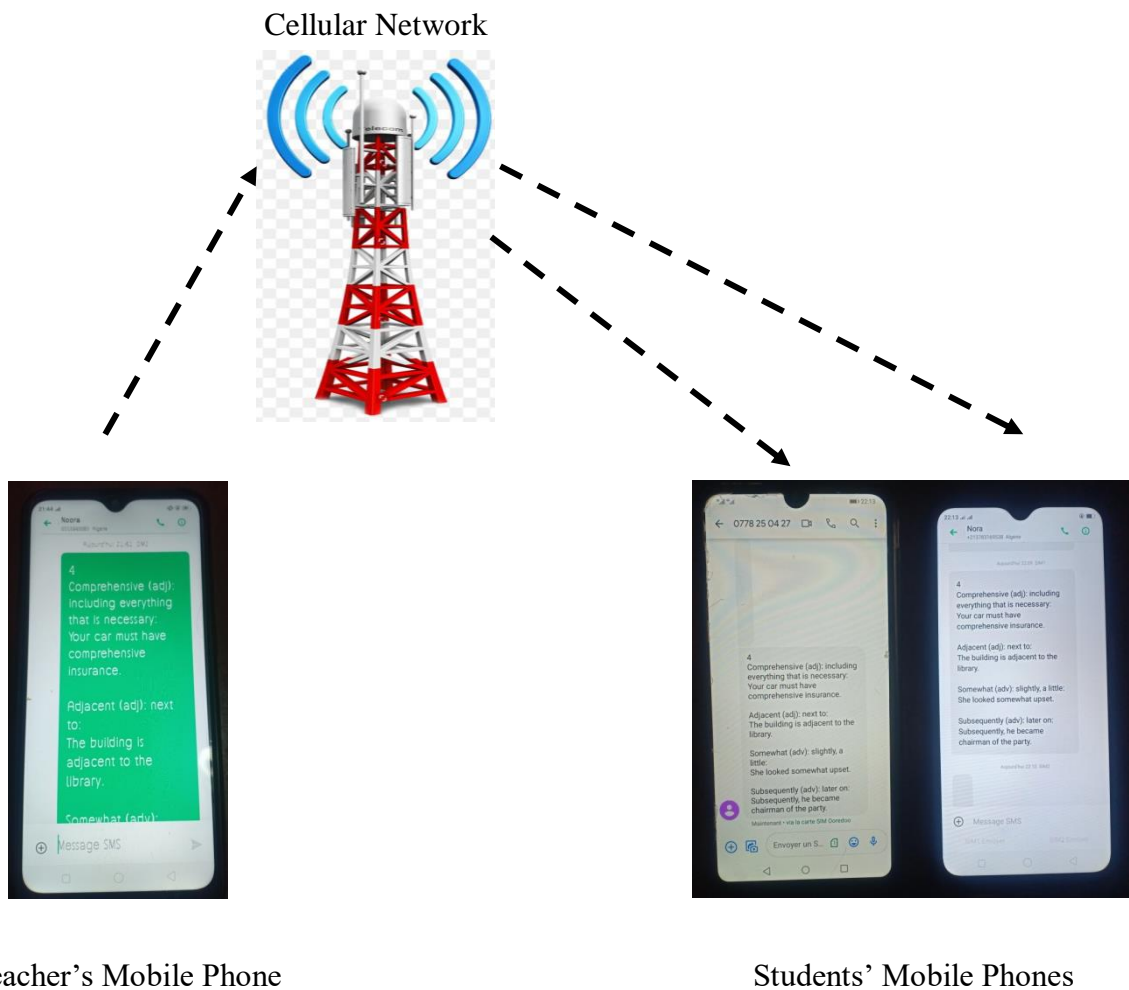


The operation of SMS delivery was done following a few other guidelines

- a. The time schedule presented above.
- b. SMS were sent to students in their way to university in the morning, in breaks between the sessions, as indicated by the groups' timetables, and early in the evening to avoid any inconveniences in the reception time.
- c. It should be mentioned that every message of the same set of words entails new example sentences not used in the previous messages.
- d. To ensure cost effectiveness, the researcher benefited from the offers of different carriers which provided bulk SMS for free. The researcher used two SIM cards: Djezzy and Mobilis. The former to send SMS to students subscribed to Djezzy and Ooredoo providers, and the latter to those who had Mobilis SIM cards.

Figure 4.5

SMS Delivery Path



The experiment took place in the first half of November 2019. The following timetable shows the dates on which each SMS was sent and with which frequency. For example, the first SMS with set 1 of the target words (4 words) was sent three times in the start day, one time in the next day, and one time two days after the second sending (or three days after the first sending). In this way, participants received 3 SMS a day or 2 SMS a day alternately from day one to day ten of the experiment. In day eleven, students received no SMS at all and one SMS in day twelve, with a total of 25 SMS during the whole period of the intervention (Appendix B).

Figure 4.6

Timetable of SMS Delivery to the SMS Group

NOVEMBER 2019						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
3 Set 1 Set 1 Set 1	4 Set 1	5 Set 2 Set 2 Set 2	6 Set 2 Set 1	7 Set 3 Set 3 Set 3	8 Set 3 Set 2	9 Set 4 Set 4 Set 4
10 Set 4 Set 3	11 Set 5 Set 5 Set 5	12 Set 5 Set 4	13	14 Set 5	15	16

4.5.2.2 Teaching Vocabulary to the Activities Group

Based on the literature review (chapter 2), the researcher has designed five activities which are repeated for every set of four words. The rationale behind these tasks is to move gradually from receptive to productive use of the words. Here are the activities and the type of vocabulary knowledge they target. They come in that order in the lessons.

1. Matching Words and their Definitions

This activity aims to introduce the words receptively to students. The sentences here are simple so that the students can recognize and guess the meaning of the target words easily. This task is not time-consuming; it generally lasts for 10 minutes approximately.

2. Fill in the Gaps

This exercise is for consolidation. Like exercise one, the banked fill in the gaps activity (which comprises the options from which students choose), is intended to tap on students' receptive knowledge of the words. To fill in the blank, they try to select the right

word that fits the sentence meaning, all along seeing the items in front of them. To make the task a bit harder, more options than gaps are given in the items box. This activity took students up to 15 minutes to handle it.

3. Multiple-choice Questions

This activity four sentences, each including a boldfaced word or phrase which is a synonym or an explanation of one target word. Students are asked to choose from among four options a word that stands for it. One alternative is the would-be learnt word which is the key students should select. All alternatives can fit the context. Therefore, the learner has to remember the meaning of the options and decide which one matches the explanation provided. This means that students start to use their productive knowledge of the words while remaining within recognition as both addressed items and their meanings are supplied. This activity also was not time taking; about 10 minutes were sufficient for doing it.

4. Paraphrasing

The paraphrasing activity leads students to think about explanations for the addressed words. The latter are boldfaced in sentences given to students for suggesting interpretations or paraphrases for them. Here, they tried to recall the meanings of these words, look for equivalents and fit them in appropriate sentences, which is a form of guided productive vocabulary knowledge use. Up to 20 minutes was the time students usually needed to paraphrase the sentences.

5. Sentence/paragraph writing

At this point, free productive use of the lexical items is at work. Learners employ the words in sentences or paragraphs of their own. This is the most difficult task; it is both labour and time intensive. Yet, writing paragraphs proved to be more challenging and time taking than writing sentences for the participants in this study. That was why the researcher

cancelled paragraph writing after the two first sessions and preferred to have students write sentences only; the researcher initially planned more sessions for paragraph writing than for sentence writing. On average, this task lasted for 30 minutes; and unlike other tasks, 1 time out of 5, feedback on students' answers to this task was not given in the same session, but later on.

The choice of five activities per session is based on research findings that 5 to 6 exercises, in the case of incidental vocabulary learning, are important for sufficient practice of words (Laufer & Roitblat-Rozovski, 2011). Diversity of exercises is required for learning to be possible because it allows for processing information at varying degrees and time spans (Nation, 2014). This also helped to strike balance between the SMS and activities groups with regard exposure since participants are expected to read and reread the same words per SMS at least 5 times, too. Teaching the target words to the SMS+Activities group was held in the regular sessions appearing on the teacher/researcher timetable as displayed in Figure 4.7.

In each session, in the course of doing the activities, difficult vocabulary, if any, was explained, and discussions were raised about the words' meanings, parts of speech and contexts where they may possibly be met or used. Furthermore, attention is called to the words spelling and pronunciation features. Whenever necessary, comparisons are made between the target words and other words that students may confuse for them because of their:

- a. Correct/incorrect spellings e.g., perceive/percieve, potential/potentiel (French),
- b. written and spoken forms e.g., advocate (noun)/advocate (verb), emphasis/emphasize, approach (noun)/approach (verb),
- c. part of speech e.g., potential (noun)/potential (adjective),

- d. cognates in French e.g., comprehensive/compréhensive (French equivalent for the adjective ‘understanding’), significant/signifiant (coming from the French verb ‘signifier’ and the equivalent for the adjective or present participle ‘meaning (that)’)
- e. or meanings e.g., accurate/appropriate, somewhat/somewhat, criteria/requirements, etc.

Figure 4.7

Timetable of Lessons Delivery to the Activities Group

NOVEMBER 2019						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
3 Lesson 1 (activities on set 1 of the words)	4	5 Lesson 2 (activities on set 2)	6 Lesson 3 (activities on set 3)	7	8	9
10 Lesson 4 (activities on set 4)	11	12 Lesson 5 (activities on set 5)	13	14	15	16

4.5.2.3 Teaching Vocabulary to the SMS plus Activities Group

The participants assigned to this treatment, received vocabulary instruction by implementing the two methods delineated above. In the day of the lesson, they received the first SMS before the lecture; next, they study carefully the words in the classroom and then they received more SMS after the lecture. The figure below depicts the schedule followed with this group.

Figure 4.8

Timetable of Lessons and SMS Delivery to the SMS+Activities Group

NOVEMBER 2019						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
3 Set 1 Set 1 Set 1 Lesson 1 (activities on set 1)	4 Set 1	5 Set 2 Set 2 Set 2 Lesson 2 (activities on set 2)	6 Set 3 Set 3 Set 3 Set 2 Set 1 Lesson 3 (activities on set 3)	7 Set 3	8 Set 2	9 Set 3
10 Set 4 Set 4 Set 4 Lesson 4 (activities on set 4)	11 Set 4	12 Set 5 Set 5 Set 5 Lesson 5 (activities on set 5)	13 Set 4 Set 5	14	15 Set 5	16

4.5.3 The Post-test

The post-test (Appendix D) was administered to check whether the three treatments have resulted in any improvement in participants' vocabulary knowledge, and to see to what extent they converged or diverged in so doing. The post-test is designed by the researcher in like manner as the pretest. It consists of two measurements: one for the receptive knowledge and the other for the productive one. In a usual class meeting, the participants sit for the post-test taking the necessary time to complete the productive test first then the receptive one. Afterward, the answer sheets are corrected; the results are compared with those of the pretest, and conclusions are drawn accordingly.

Conclusion

In this chapter, we enumerated the tools used and supplied justifications for their choice; also, we described the steps followed in the conduct of the research to empirically seek answers to the research questions and check the validity of the hypotheses set at the start of this study, which relate to the effects of word-focused activities, short messages and their combination on students' receptive and productive vocabulary knowledge. After such descriptions, reporting and analyzing the data collected through these tools and methodologies are the steps that follow. The subsequent chapter covers them.

CHAPTER 5: DATA ANALYSIS AND DISCUSSION

Introduction

After describing the sample selected, tools used and procedures followed in the conduct of this study in chapter 4, this chapter is devoted to data analysis and discussion. It starts with seeking answers to the research questions pertinent to the efficacy of the three instructional methods under consideration through analyzing and interpreting the data collected by means of the experiment. Then, the question about learners' opinions on and attitudes towards the instruction types will be answered via discussing the findings of the questionnaires.

5.1 The Findings of the Experiment

Subsequent sections are devoted to the analysis of the outcomes of the experiment.

5.1.1 The Pre-test Results

The results of the pre-test obtained by the subjects in the three groups are summarized in the Table 5.1 in terms of numbers and percentages of participants and words unknown to them.

Table 5.1

Words Unknown to Students: Global Description

STUDENTS		RECEPTIVE TEST		PRODUCTIVE TEST	
N°	%	N° of unknown words	% of unknown words	N° of unknown words	% of unknown words
48-72	66.66-100	27	81.81	31	93.94
25-47	34.72-65.28	6	18.19	1	3.03
00-24	00-33.33	00	00	1	3.03
Total	/	33	100	33	100

As indicated in Table 5.1, at least two thirds of the students (representing 66.66%) had no receptive knowledge of 27 words (81.81% of target words) and no productive knowledge of 31 words (93.94%). 6 words (18.19%) could be recognized receptively by several students (34.72%), and two words (6.06%) could be recalled productively: 49 students (68.05%) knew the word ‘aspect’ and 37 (51.39%) the word ‘achieve’. On the whole, these results show that students are not cognizant of most targeted words, both passively and actively.

To select words for instruction, percentages of wrong answers in the receptive test are the gauge because they are assorted and wide ranging, so they give a clearer image of which words should be taught to students. We could not rely on the scores of the productive test because they are more or less similar; almost all words are unknown to most students as demonstrated in Table 5.2 in more detail. This table includes the items and their corresponding numbers and percentages of right and wrong answers.

The results are arranged from the lowest to the highest percentage of correct answers in the receptive vocabulary test. The data reveal that there is a wide variation in students’ receptive knowledge of the targeted words i.e. the words are known to students *receptively* to different degrees. As we read further down Table 5.2, the words become more and more familiar to students; that is, the words listed first are the least known since the percentages of wrong answers are the highest; the ones listed last are the most known to participants as shown by the increasing rise in the percentages of correct answers. For example, 65 subjects (90.28%) have no idea what ‘emphasize’ means, and only 7 subjects (9.72%) do. On the other hand, 44 students (61.11%) know the meaning of ‘achieve’, and 28 of them (38.89%) did not know it.

Table 5.2**Words Unknown to Students: Detailed Description**

N°	WORD	RECEPTIVE TEST				PRODUCTIVE TEST			
		N° of right answers	% of right answers	N° of wrong answers	% of wrong answers	N° of right answers	% of right answers	N° of wrong answers	% of wrong answers
1	Emphasize	7	9.72	65	90.28	6	8.33	66	91.67
2	Incentive	8	11.11	64	88.89	00	00	72	100
3	Somewhat	10	13.89	62	86.11	00	00	72	100
4	aspect	11	15.28	61	84.72	49	68.05	23	31.95
5	approach	11	15.28	61	84.72	2	2.78	70	97.22
6	adjacent	13	18.05	59	81.95	2	2.78	70	97.22
7	adequate	14	19.44	58	80.56	3	4.17	69	95.83
8	advocate	14	19.44	58	80.56	22	30.56	50	69.44
9	adjust	15	20.84	57	79.16	15	20.83	57	79.17
10	sustain	15	20.84	57	79.16	7	9.72	65	90.28
11	criteria	15	20.83	57	79.16	8	11.11	64	88.89
12	perceive	15	20.83	57	79.16	2	2.78	70	97.22
13	accurate	16	22.22	56	77.78	13	18.06	59	81.94
14	hence	16	22.22	56	77.78	3	4.17	69	95.83
15	generate	16	22.22	56	77.78	12	16.67	60	83.33
16	significant	17	23.62	55	76.38	11	15.28	61	84.72
17	comprehensive	18	25.00	54	75.00	8	11.11	64	88.89
18	controversy	18	25.00	54	75.00	1	1.39	71	98.61
19	potential	19	26.39	53	73.61	13	18.06	59	81.94
20	subsequently	21	29.17	51	70.83	1	1.39	71	89.61
21	prior	21	29.17	51	70.83	00	00	72	100
22	factor	21	29.17	51	70.83	7	9.72	65	90.28
23	appropriate	22	30.56	50	69.44	13	18.06	59	81.94
24	contribute	23	31.94	49	68.06	17	23.61	55	76.39
25	aware	23	31.94	49	68.06	22	30.56	50	69.44
26	prospect	24	33.33	48	66.67	9	12.5	63	87.5
27	concept	24	33.33	48	66.67	1	1.39	71	89.61
28	ultimate	28	45.84	44	61.11	23	31.95	49	68.05
29	undertake	30	41.67	42	58.33	4	5.56	68	94.44
30	acknowledge	33	38.89	39	54.16	13	18.06	59	81.94
31	affect	36	50.00	36	50.00	15	20.83	57	79.17
32	assist	37	51.39	35	48.61	14	19.44	58	80.56
33	achieve	44	61.11	28	38.89	37	51.39	35	48.61

Accordingly, the first 20 items (from ‘emphasize’ to ‘subsequently’) are selected for instruction; they are not recognized by more than two thirds of students (70.83% and more). We will be concerned with this set of words when reporting the results of the pre-test thereafter.

It must be mentioned that the word ‘subsequently’, not ‘prior or factor’, has been chosen for instruction although they all have the same percentage (70.83%) because of its part of speech. In fact, the list of would-be learned words includes six nouns, six verbs, five adjectives and two adverbs. Therefore, adding a third adverb to the list would be wiser to bring variety to the word classes of the items under consideration. Moreover, the word ‘aspect’ is correctly productively used in 68.05% of the answers, yet it belongs to the list of chosen words because it sounds logical that students should learn its meaning receptively as well. ‘Aspect’ is an example of a word whose active knowledge precedes the passive one uncommonly.

It should be noted that, henceforth, the sample is made up of 60 participants who took both the pre-and post- tests, and who were regularly present during the treatment. In addition, we will deal with these students’ results related to the 20 target words; we are no more interested in the thirteen words numbered 21 to 33 in Table 5.2 above (from ‘prior’ to ‘achieve’) as they will not be part of the experiment. Participants’ scores obtained in the pre-test are reported below. Table 5.3 shows the scores summed up in ranges relevant to subjects’ performance.

As far as receptive vocabulary knowledge is concerned, in either the SMS or SMS+Activities group, 17 students (85% of the group) obtained 5 marks or less; two students (10%) scored between 6 and 9, and one student (5%) got 10 out of 20. In the activities group,

for 16 students (80%) the scores ranged between 0 and 5 while 4 participants (20%) had from 6 to 9 marks.

Table 5.3

The Pre-test Score Ranges

		SCORE RANGES							
Test	Group	0-5		6-9		10		Total	
		N°	%	N°	%	N°	%	N°	%
Receptive	SMS+Activities	17	85	2	10	1	5	20	100
	Activities	16	80	4	20	/	/	20	100
	SMS	17	85	2	10	1	5	20	100
Productive	SMS+Activities	19	95	1	5	/	/	20	100
	Activities	19	95	1	5	/	/	20	100
	SMS	19	95	1	5	/	/	20	100

According to these results, participants, on the whole, belong to one of three categories:

a- many participants had ‘very poor’ receptive knowledge of the words suggested for teaching; these are 50 students out of 60 (83.33% of the whole sample) who did not recognize more than 5 words out of 20.

b- Eight participants (13.33% of the whole sample) showed ‘poor’ receptive knowledge as they could identify from 6 to 9 words out of 20.

c- Two subjects (3.33% of the sample) were of ‘average’ level since they could get half (10 out of 20) of the answers right.

With regard productive vocabulary knowledge, the results were similar in the three groups. In each group, there are 19 students (95%) who scored between 0 and 5 whereas one

participant (5%) obtained a mark between 6 and 9. Therefore, unlike for the receptive knowledge, only two categories of students can be distinguished here:

a- participants (57 representing 95% of the whole sample) with ‘very poor’ productive knowledge of the target words, who could recall no more than five words.

b- participants (three students or 5%) having productive knowledge of seven or eight words. So, they are a little better than the student in the previous category, yet they still remain with ‘poor’ productive knowledge of the 20 target words.

It is worth mentioning that the results in the receptive test are slightly higher than those of the productive one. First, the number of participants who scored between 6 and 9 in the receptive test is two times over that of their counterparts in the productive test; second, no participants showed average productive knowledge of the words while two students proved to have average level in receptive knowledge of them. No participant could be described as being ‘good’ or ‘very good’ in both types of vocabulary knowledge, though. To get clearer comparisons between the groups, descriptive statistics are needed. It is worth noting that all statistics hereafter are done by means of Microsoft Office Excel, and the significance level opted for is $p=0.05$, unless stated otherwise.

Table 5.4

Descriptive Statistics of the Pre-test

TEST	GROUP	N°	MEAN	MEDIAN	MODE	SD
Receptive	SMS+Activities	20	3.25	3	2	2.53
	Activities	20	3.55	3	2	2.39
	SMS	20	3.6	3	2	2.16
Productive	SMS+Activities	20	1.8	1	1	1.9
	Activities	20	1.6	1	1	1.5
	SMS	20	2.1	1.5	1	2.02

In the receptive test, for the SMS group (M=3.6, SD=2.16), the word-focused activities group (M=3.55, SD=2.39), and the SMS+Activities group (M=3.25, SD=2.53), the results seem to be close. However, in the productive test, according to the means, participants in the SMS condition did slightly better (M=2.1, SD=2.02) than their counterparts in the SMS+Activities (M=1.8, SD=1.9) and activities (M=1.6, SD=1.5) conditions.

From a numerical standpoint, a glance at the data in Table 5.4 reveals that the differences between the three groups were not large in receptive as well as productive tests. Participants' performance was mediocre; no test mean exceeds 4. Yet, this conclusion needs to be supported with a statistical test. With three and more groups the one way ANOVA test is usually run to determine whether or not the differences are statistically significant.

Table 5.5

One-way ANOVA Results of the Receptive Vocabulary Pre-test

Source	Sum of Square	df	Mean Square	F Statistic	P-Value	F Critical	Sig.
Groups (between groups)	1.43	2	0.71	0.12	0.88	3.15	0.05
Error (within groups)	319.5	57	5.6				
Total	320.93	59					

A glance at the statistics report of the analysis of variance, $F_{(2, 57)} = 0.12$, $p=0.88$, reveals that the differences between the means of the three groups in the receptive vocabulary knowledge pre-test are not big enough to be statistically significant since the computed $F=0.12$ is less than the critical $F_c=3.15$; likewise, the p -value=0.88 is greater than α (0.05). Now, we follow the same procedure with the productive vocabulary knowledge pre-test.

Table 5.6**One-way ANOVA Results of the Productive Vocabulary Pre-test**

SOURCE	SUM OF SQUARE	DF	MEAN SQUARE	F STATISTIC	P-VALUE	F CRITICAL	SIG.
Groups (between groups)	2.53	2	1.26	0.38	0.68	3.15	0.05
Error (within groups)	189.8	57	3.33				
Total	192.33	59					

The conclusion drawn from the ANOVA results of the productive vocabulary knowledge pre-test, $F_{(2, 57)}=0.38$, $p=0.68$, is that there is no statistically significant differences between the three conditions.

Overall, the ANOVA test statistics indicated that the three groups had comparable levels in vocabulary knowledge, both receptive and productive. Hence, we could start the treatment safely as participants had nearly the same entry level of knowledge of the words intended for instruction.

After the period of the treatment during which the three groups received instruction in the would-be learned words, each through a given method in the way detailed in chapter 4, the participants sat for the post-test. To evaluate the efficacy of the different instruction types, the results of the post-test were analyzed and compared with those of the pre-test.

5.1.2 The Post-test Results

When correcting participants' answer sheets, an obvious increase in the scores was noticed by the researcher. In comparison with the pre-test, the post-test results were better for all groups, which means that the three instructional methods had enabled students to improve their vocabulary knowledge, receptive and productive alike, of the instructed vocabulary words. This section accounts for the post-test results quantitative and statistical analyses.

Table 5.7**The Post-test Score Ranges**

Test	Group	SCORE RANGES											
		0-5		6-9		10-13		14-17		18-20		Total	
		N°	%	N°	%	N°	%	N°	%	N°	%	N°	%
Receptive	SMS+Activities	/	/	2	10	5	25	7	35	6	30	20	100
	Activities	/	/	3	15	8	40	4	20	5	25	20	100
	SMS	/	/	7	35	9	45	3	15	1	5	20	100
Productive	SMS+Activities	/	/	2	10	5	25	6	30	7	35	20	100
	Activities	/	/	2	10	8	40	8	40	2	10	20	100
	SMS	6	30	4	20	4	20	5	25	1	5	20	100

Regarding the receptive vocabulary knowledge, the first new category, not found in the pre-test, is that of ‘very good’ performers; it includes 30% of the SMS+Activities group, 25% of the activities group and 5% of the SMS group; these are participants who could recognize 18, 19 or 20 words in the post-test. The second class, also non-existent in the pre-test, is formed of subjects with a ‘good’ level providing from 14 to 17 correct answers, meaning that they could identify similar numbers of words. Their distribution over the groups is as follows: More than third of the students (35%) in the SMS+Activities group, 20% of the activities group, and 15% of the SMS group. The third category is that of participants who scored between 10 and 13 showing that they are of average level; it comprises 25% of participants in the SMS+Activities, 40% of the activities group and 45% of the SMS group. Marks ranging from 6 to 9 are obtained by 10% of the SMS+Activities group, 15% of the activities group and 35% of the SMS group, forming a fourth category of students which is that of ‘poor’ performers. However, no participant under any of the three conditions

can be said to have ‘very poor’ receptive knowledge of the target words (scoring less than 5), a category characteristic of the pre-test.

The productive vocabulary knowledge test also saw varied results. No student (00%) receiving vocabulary instruction through SMS and word-focused activities associated or through word-focused activities alone scored less than 5 marks while 6 students (30%) under the SMS condition had 5 or less. Thus, these participants can, still, be described as being ‘very poor’ when it comes to using vocabulary productively. The percentage of poor performing students in the SMS+Activities and activities groups is 10% each i.e., two participants got between 6 and 9 marks versus 4 participants (20%) in the SMS group. Eight subjects (40%) in the activities group are of ‘average’ ability by attaining 10-13 marks; they are similar to 5 counterparts (25%) in the SMS+Activities and to 4 (20%) SMS participants. Students with ‘good’ productive knowledge are represented by 40% of the activities group, 30% of the SMS+Activities subjects and 25% of the SMS participants. Many participants under the SMS+Activities treatment (35%) showed ‘very good’ productive vocabulary knowledge whilst only 10% and 5% did the same under the SMS and activities treatments, in that order.

The most significant differences in the receptive test results are, first, 2 (10%) of the participants assigned to the SMS+Activities group and 3 (15%) to the activities group got less than 10 marks in the receptive test against 7 (35%) of the SMS participants. Second, 30% and 25% of the SMS+Activities and activities groups respectively reached high marks (18 to 20) against 5% only in the SMS group. On the other hand, in the productive test, some students (30%) receiving vocabulary instruction via SMS alone were not able to recall more than 5 words whereas all their equivalents in both the activities and SMS+Activities groups productively remembered more than 5 words. For a more thorough analysis of the results, description of the outcomes of each group in isolation is provided next.

1.1.2.1 Reporting the Results of the SMS+Activities Group

The following section reports on the results of students who received instruction on the target words by means of the blended method. They studied the words intensively in the classroom via exercises and rehearse them outside the classroom through SMS.

Table 5.8

Comparison of the Pre-test and Post-test Results of the SMS+Activities Group

TEST		CENTRAL TENDENCY				DISPERSION		
		N°	Mean	Median	Mode	Min.	Max.	Range
Receptive	Pre-test	20	3.25	3	2	00	10	10
	Post-test	20	15.35	16	17	8	20	12
Productive	Pre-test	20	1.8	1	1	0	7	7
	Post-test	20	14.7	15.5	11	6	20	14

In the case of the SMS+Activities condition, glancing at Table 5.8, one can notice great differences between the central tendency measures: mean, median and mode of the two tests. The means of the post-test were far better than those of the pre-test, both in the receptive test (15.35 against 3.25) and the productive test (14.7 against 1.8). The mode is the most frequent score in a distribution, and here it was 02 in the receptive pre-test, but it went up to 17 in the post-test, and it was 1 in the productive pre-test and became 15.5 in the post-test.

Furthermore, the dispersion indicators show that participants have improved after the intervention. The lowest score both in the receptive and productive pre-test was 0, but it increased to 8 in the receptive post-test and to 6 in the productive one. The highest score is also a significant indicator of participants' improvement post to a treatment. Here, the top mark in the receptive test doubled (from 10 to 20) while it almost tripled (from 7 to 20) in the productive test. These results indicate a notable progress on the part of participants who

received vocabulary instruction via the blended method of SMS and word-focused activities. However, the need arises for a statistical test to confirm that the difference between students' behaviors prior and post to the treatment is statistically significant. Consequently, a paired samples t-test is run.

Table 5.9

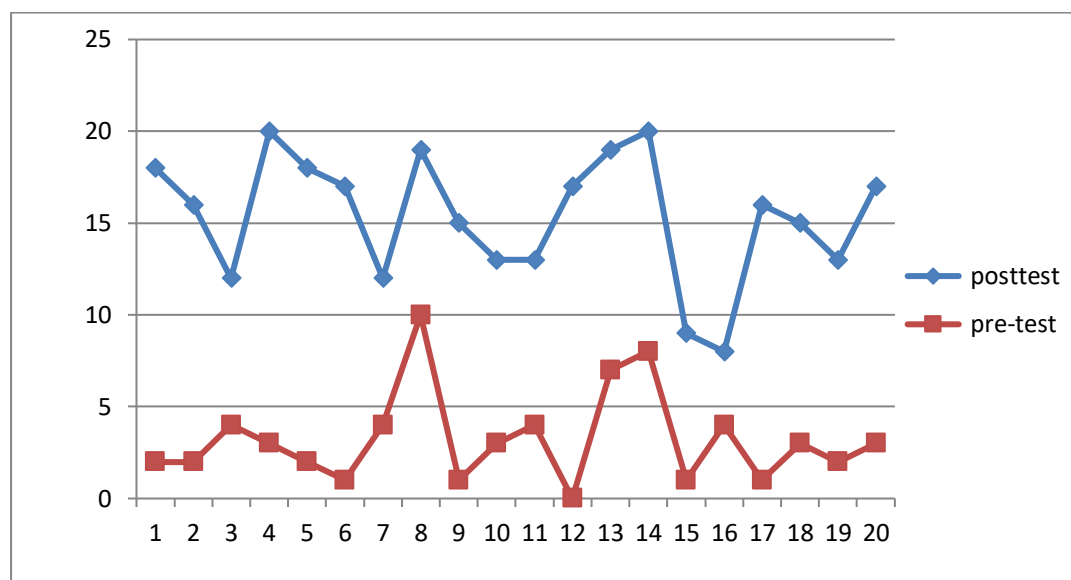
The Paired-samples t-test Results of the SMS+Activities Group

TEST	N	MEAN DIFFERENCE	DF	STATISTIC T	CRITICAL T	P	SIG.
Receptive	20	12.10	19	-14.80	2.09	6.92E-12	0.05
Productive		12.90		-14.10		1.61E-11	

With regard the receptive pre-test, the statistics shown in Table 5.9 suggest that both the calculated absolute value of the t and the p-value ($t_{(19)}=14.80$, $p=6.92E-12$) lead to the same conclusion: the difference between the pre- and post-tests is big enough to be statistically significant. These differences become clearer when plotted in a curve like the one in Figure 5.1, which shows that the scores of SMS+Activities group in the post-test were higher than those of the pre-test in the reception dimension of vocabulary knowledge. The span of marks run from 0 to 10 in the pre-test and from 8 to 20 in the post-test.

Figure 5.1

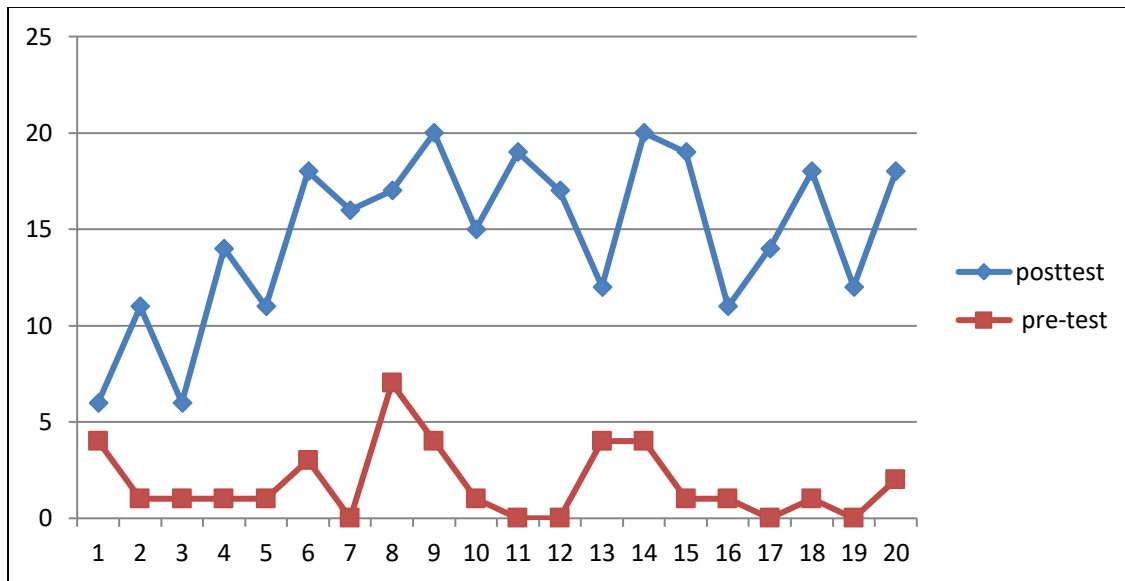
Comparing the Receptive Pre- and Post-tests' Results of the SMS+Activities Group



As far as the productive test is concerned, the mean difference between the pre-and post-tests (12.90) is also statistically significant following the givens: $t_{(19)}=14.10$, $p=1.61E-11$. In other words, there is only a 5% probability that the improvement is due to chance alone, and 95% probability that manipulation of the IV (SMS and word-focused activities instruction) is the cause of the improvement witnessed in the DV (participants' knowledge of the targeted words) at the end of the experiment. Figure 5.2 elucidates this difference visibly. Most scores were at or near the zero (0) line in the pre-test and above the ten (10) line in the post-test, which hints a very remarkable progress.

Figure 5.2

Comparing the Productive Pre- and Post-tests' Results of the SMS+Activities Group



5.1.2.2 Reporting the Results of the Activities Group

Participants in the Activities group were taught the would-be learned words by means of activities only as described in chapter 4. Here are their results.

Table 5.10

Comparison of the Pre-test and Post-test results of the Activities Group

TEST		CENTRAL TENDENCY				DISPERSION		
		N	Mean	Median	Mode	Min.	Max.	Range
Receptive	Pre-test	20	3.55	3	2	0	8	8
	Post-test	20	13.65	13	10	8	19	11
productive	Pre-test	20	1.6	1	1	0	7	7
	Post-test	20	13.85	13.5	12	8	20	12

The means of the receptive and productive post-tests (13.65 and 13.85, respectively) are higher than those of the pre-tests (3.55 and 1.6, respectively), and so are the medians (3

vs. 13 for vocabulary reception and 1 vs. 13.5 for vocabulary production) and modes (2 vs.10 in reception; 1 vs. 12 in production). Likewise, the dispersion measures of lowest and highest grades are much higher in the post tests. All these indicators evidence that under the word-focused activities condition participants were able to gain a remarkable progress in receptive as well as productive knowledge of the instructed words. It remains to be demonstrated whether or not these important differences in performance are statistically significant. For this end, the Table 5.11 is drawn.

Table 5.11

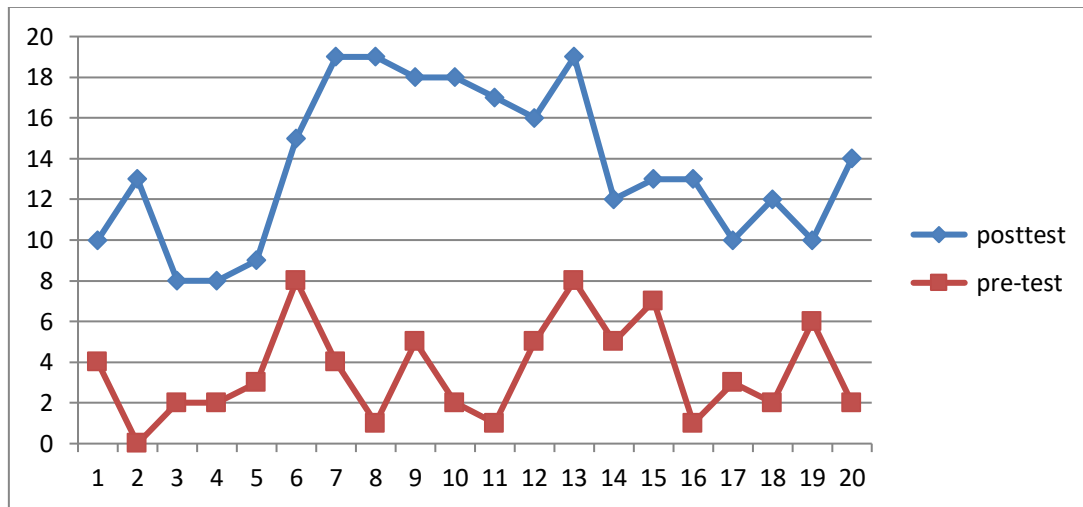
The Paired-samples t-test Results of the Activities Group

TEST	N	MEAN DIFFERENCE	STATISTIC T	CRITICAL T	P-VALUE	SIG.
Receptive	20	10.10	-10.80	2.09	1.48E-09	0.05
productive		12.25	-16.10		1.55E-12	

On the one hand, using the computed and critical values of the t-test, we find that the former is greater than the latter ($10.80 > 2.09$) in vocabulary reception test. On the other hand, using the p-value approach, we find that the p-value is smaller than the significant level ($1.48E-09 < 0.05$) in the same test. Therefore, there is statistical evidence that the difference in subjects' receptive knowledge before and after the treatment is significant. When graphically presented in Figure 5.3, the comparison gets more obvious. The pre-test scores of receptive vocabulary knowledge were much lower than those of the post-test; they extended downward from 8 to 0 in the former and upward from 8 to 19 in the latter. This means that the highest score in the pre-test was the lowest in the post-test.

Figure 5.3

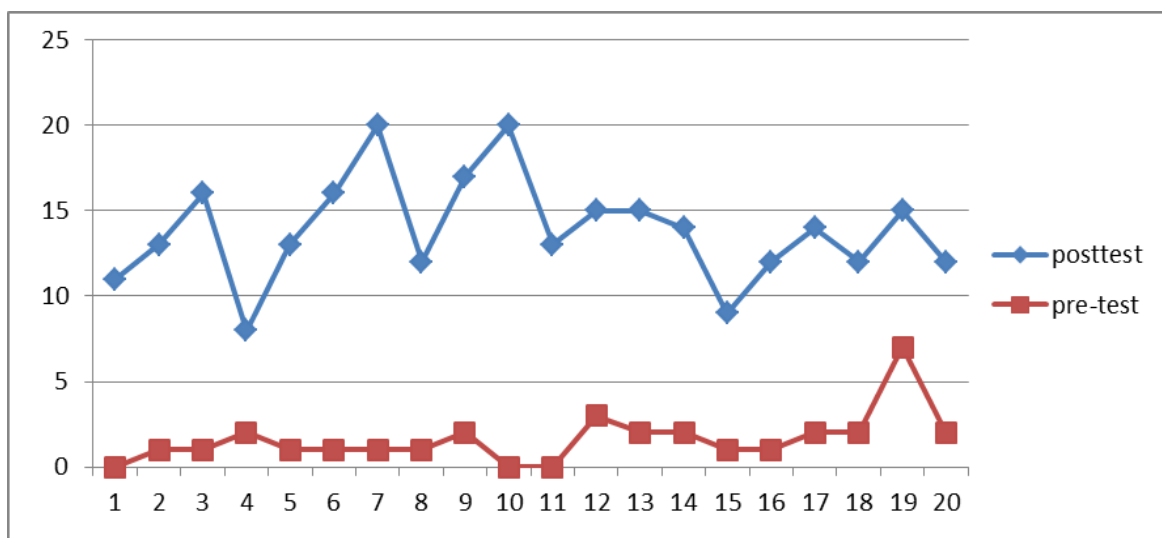
Comparing the Receptive Pre-test and Post-tests' Results of the Activities Group



In the productive test, the results were as follows. The observed $t=16.10 (> t_c=2.09)$, and the $p\text{-value}=1.55E-12 (< \alpha=0.05)$; therefore, the difference is also statistically significant. Figure 5.4 demonstrates how the scores considerably differ in the productive tests. Almost all marks were under 5 in the pre-test whereas they increased over 12 in the post-test.

Figure 5.4

Comparing the Productive Pre-test and Post-tests' Results of the Activities Group



5.1.2.3 Reporting the Results of the SMS Group

Under the short messages conditions, students had to learn the target words through the SMS they received repetitively over prolonged time intervals in the way specified in chapter 4. The results students obtained are reported below.

Table 5.12

Comparison of the Pre-test and Post-test Results of the SMS Group

TEST		CENTRAL TENDENCY				DISPERSION		
		N	Mean	Median	Mode	Min.	Max.	Range
Receptive	Pre-test	20	3.6	3	2	1	10	9
	Post-test	20	10.95	11	11	6	20	14
productive	Pre-test	20	2.1	1.5	1	0	8	8
	Post-test	20	09.25	9	10	2	20	18

Students the in SMS group progressed in terms of both receptive and productive vocabulary knowledge as their scores are better in the post-test. There is an increase in all central tendency and dispersion indicators. The means moved from 3.6 to 10.95 in the receptive test and from 2.1 to 09.25 in the productive test. The medians shifted from 3 to 11 in the receptive test and from 1.5 to 9 in the productive test. Furthermore, the modes went up from 2 to 11 in the receptive test and from 1 to 10 in the productive one. The highest score in the receptive pre-test (10) doubled (20) in the post-test whereas in the productive test expanded from 8 in the pre-test to 20 in the post-test. Yet, it is still to be proved that these differences are statistically significant through the t-test calculation.

Table 5.13

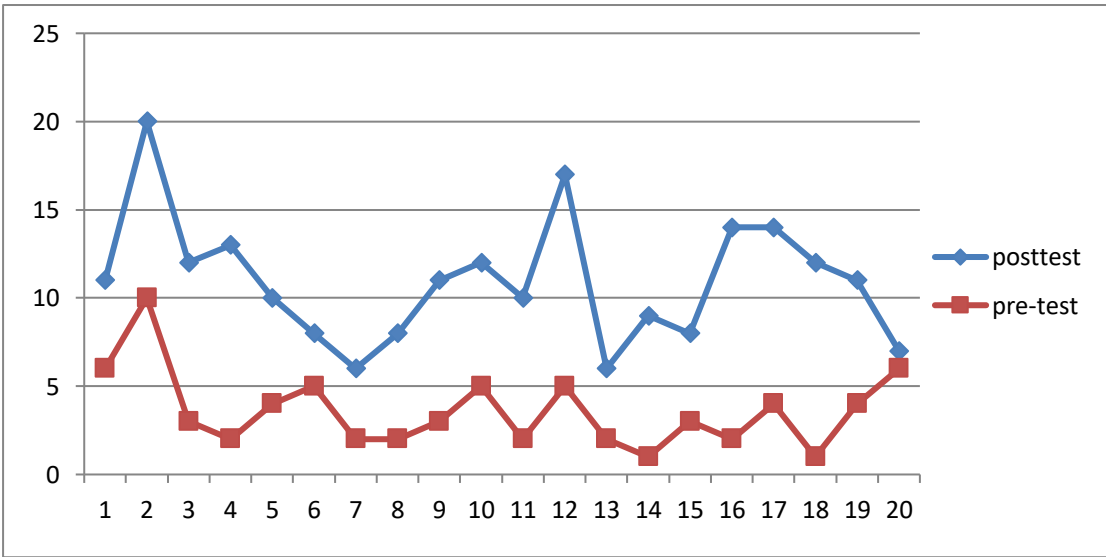
The Paired-samples t-test Results of the SMS Group

TEST	N	MEAN DIFFERENCE	STATISTICAL T	CRITICAL T	P	SIG.
Receptive	20	-7.35	-10.54	2.09	2.21E-09	0.05
productive		-7.15	-7.03		1.07E-06	

In brief, the p-value is 2.21E-09 in the receptive test and 1.07E-06 in the productive test; both values are smaller than the significant level 0.05, meaning that the difference is statistically significant. This conclusion is also confirmed by the calculated absolute t values $t_{(19)} = 10.54$ for vocabulary reception test and $t_{(19)} = 7.03$ for vocabulary production test, which are both higher than the critical $t = 2.09$. Transferring the data into graphic displays, Figure 5.5, demonstrates that there were gains in vocabulary recognition obtained by the SMS participants. Although they were statistically significant, they were not that large since many fell in the span between 5 and 10.

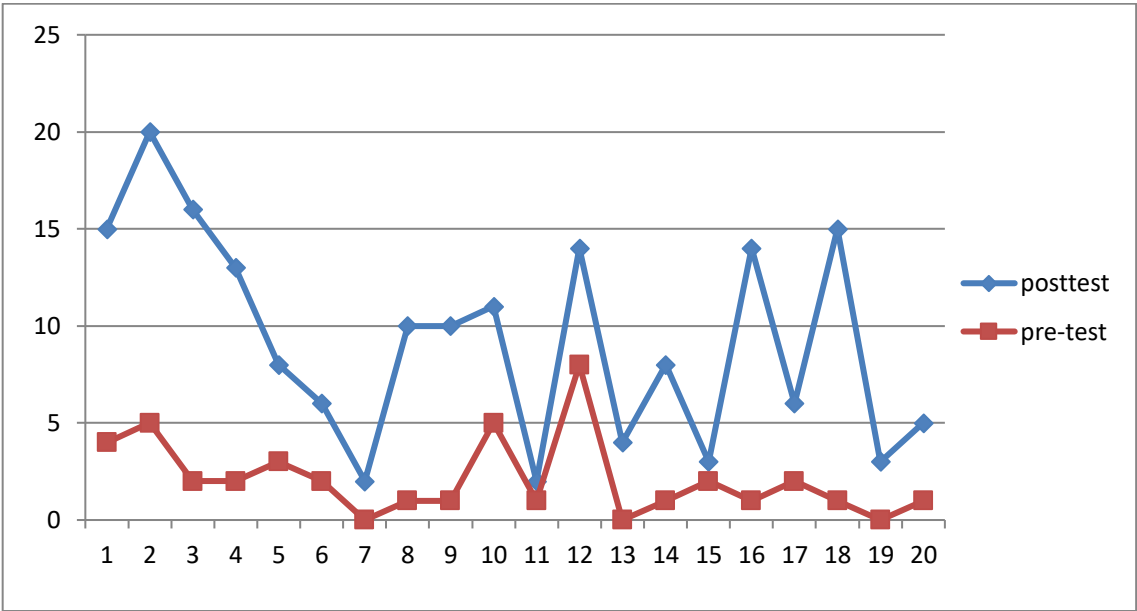
Figure 5.5

Comparing the Receptive Pre- and Post- tests' Results of the SMS Group



Similarly, students could get better marks in the productive post-test; however, they did not differ to a great extent from those of the pre-test. As shown on the Figure 5.6, the curves overlap, which means that some marks were as low as those of the pre-test. Besides, there was a substantial variance in the scores; they varied from 2 to 20 unlike the in pre-test where nearly all participants obtained 1 or 2.

Figure 5.6
Comparing the Productive Pre- and Post- tests' Results of the SMS Group



5.1.3 Comparison of the Effects of the Three Methods

According to the paired samples t-tests, all groups witnessed improvement, meaning that the three instructional methods led to positive changes in the rates of vocabulary learning. To find out whether this effect is similar or different, the one-way ANOVA test is computed, and the results are displayed in Table 5.14.

Table 5.14**One-way ANOVA Results of the Receptive Vocabulary Post-test**

SOURCE	SUM OF SQUARE	DF	MEAN SQUARE	F STATISTIC	P-VALUE	F CRITICAL	SIG.
Groups (between groups)	196.93	2	98.46	7.56	0.001	3.15	0.05
Error (within groups)	742.05	57	13.01				
Total	938.98	59					

As demonstrated in Table 5.14, the differences between the three methods in post-test scores were statistically significant, $F_{(2,57)}=7.56$, $p<0.05$. In conclusion, the different types of instruction led to different degrees of improvement in students' learning of target words. However, the ANOVA does not specify between which pairs of conditions the differences exist. Hence, to determine exactly which methods differ from each other, the post hoc Scheffé test is calculated online at <https://astatsa.com>.

Table 5.15**Scheffé Results of Receptive Vocabulary Knowledge**

Treatments pair	Scheffé T-statistic	Scheffé p-value	Scheffé inference
SMS+Activities vs activities	1.4899	0.3365877	insignificant
SMS+Activities vs SMS	3.8563	0.0013509	** $p<0.01$
Activities vs SMS	2.3664	0.0692011	insignificant

As far as receptive learning of target vocabulary is concerned, post hoc comparisons using the Scheffé test revealed that, at a significance level of 0.01, there was a statistically significant difference between the SMS+Activities and SMS conditions. However, no

significant differences existed between the SMS+Activities and activities conditions or the activities and SMS conditions.

For more specification, we need to compare the means of the post tests. So, learning vocabulary receptively through the blended method whereby SMS and word-focused activities are joined (M= 15.35) yielded better results than learning through SMS alone (M=10.95). On the other hand, vocabulary instruction by means of the SMS+Activities method (M=15.35) and activities method (M=13.65) resulted in outcomes that did not statistically differ significantly, nor did the results obtained via activities alone method (M=13.65) and the SMS alone method (M=10.95).

With reference to productive vocabulary knowledge, comparing the three instruction types followed the same steps by computing the one-way ANOVA and the Scheffé tests.

Table 5.16

One-way ANOVA Results of the Productive Vocabulary Post-test

SOURCE	SUM OF SQUARE	DF	MEAN SQUARE	F STATISTIC	P-VALUE	F CRITICAL	SIG.
Groups (between groups)	343.9	2	171.95	9.15	0.0003	3.15	0.05
Error (within groups)	1070.5	57	18.78				
Total	1414.4	59					

Following the data in Table 5.16, the differences between the three instructions in the post-test, $F_{(2,57)}=9.15$, $p<0.05$, were statistically significant when it came to gaining knowledge of the productive aspect of vocabulary. Therefore, not the same results were reached via the various methods under consideration. So, which method differed from which other methods? This is a question that the post hoc Scheffé test answered.

Table 5.17**Scheffé Results of Productive Vocabulary Knowledge**

Treatments pair	Scheffé T-statistic	Scheffé p-value	Scheffé
SMS+Activities vs	0.6202	0.8255500	insignificant
SMS+Activities vs SMS	3.9769	0.0009312	** p<0.01
Activities vs SMS	3.3566	0.0058539	** p<0.01

The data indicated that the difference in efficacy for learning vocabulary productively is not statistically significant between the SMS+Activities (M=14.7) and word-focused activities (M=13.85) methods; that is, students under these conditions obtained comparable gains. In contrast, the differences are statistically significant between SMS+Activities (M=14.7) and SMS (M=09.25), on one side, and between activities (M= 13.85) and SMS (M=09.25) ways of instructions, on the other side. To explain, participants who belonged both to the SMS+Activities and activities groups outperformed those in the SMS group, in the productive vocabulary post-test.

5.1.4 Overall Analysis of the Results of the Experiment

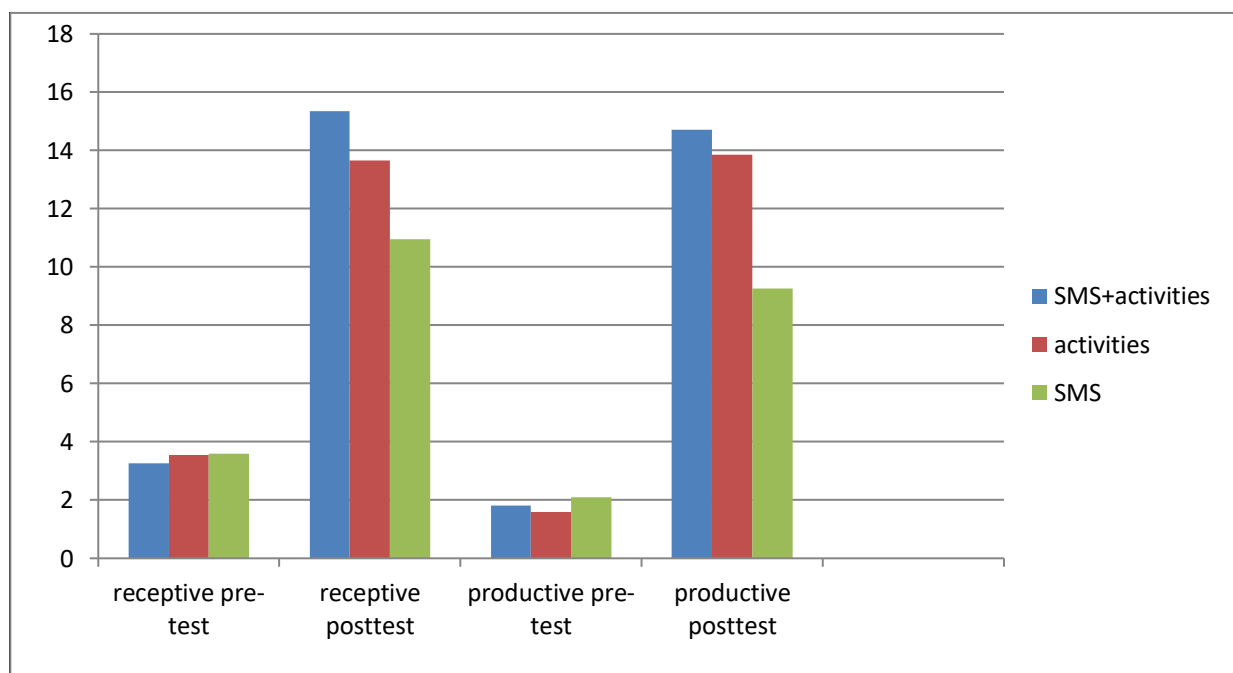
After analyzing the results of individual groups and methods, overall analysis is necessary to get the big picture of the experiment findings regarding the effectiveness of the different instruction types considered in the current study.

Figure 5.7 displays plainly the improvement students under all conditions achieved post to the treatment. The mean of vocabulary recognition jumped from about 4 in the pre-test to about 16 in the post-test, and the mean of vocabulary production rose from about 2 in the pre-test to 15 approximately in the post-test. In addition, the groups seemed to have nearly the

same level of vocabulary knowledge before the intervention while they varied after it; the groups' levels of knowledge diverged. According to the score means of the post-tests, the SMS method brought about a small effect on students' performance; followed by the activities method whose impact was large, then came the blended method with the largest effect on students' achievement scores. So, the blended method enhances vocabulary breadth and depth in learners because they attend to words in various tasks and processes them intensively in the classroom; at the same time, they read and re-read them repeatedly away from the classroom in short messages they received throughout the day.

Figure 5.7

Comparison of the Pre-tests and Post-tests Means of All Groups



However, the statistical tests resulted in a different classification of the instruction types. To explain, the blended (SMS+Activities) as well as the word-focused activities methods create a more considerable effect on students' vocabulary production in comparison with the SMS only method. They both come in the first place in this regard and SMS second.

Thus, deep processing of words the activities offers leads to an amount of productive knowledge which repetition alone fails to produce.

On the other hand, the SMS-based method has the potential to increase the number of words learners can recognize receptively thanks to the repeated exposure to these words in varied instances of use it affords for. It is comparable to the effect word-focused activities generate. The two methods can be classified in the second place in this regard. SMS also improves productive use of words but to a low degree; in fact, the lowest among the three methods under study here. Thus, processing vocabulary through activities or re-learning it repetitively via SMS has similar effect on vocabulary recognition, but the exposure impact on vocabulary production is less substantial. These findings can be diagrammed as in Figure 5.8 below.

Putting it all together, we can say that although all methods yield improvement in participants' performance, they differ in its quality (moderate, high) and area (receptive, productive vocabulary knowledge). First, the t-test computed values suggest a statistically significant difference between pre- and post-tests means; each group has performed better in the post-test. Second, the F test results confirm the existence of differences between groups' achievement in the post-test, and the Scheffé post hoc test shows that there are statistically significant differences between:

- the SMS+Activities and the SMS groups in vocabulary reception or recognition,
- the SMS+Activities and the SMS groups in vocabulary production
- the activities and the SMS groups in vocabulary production.

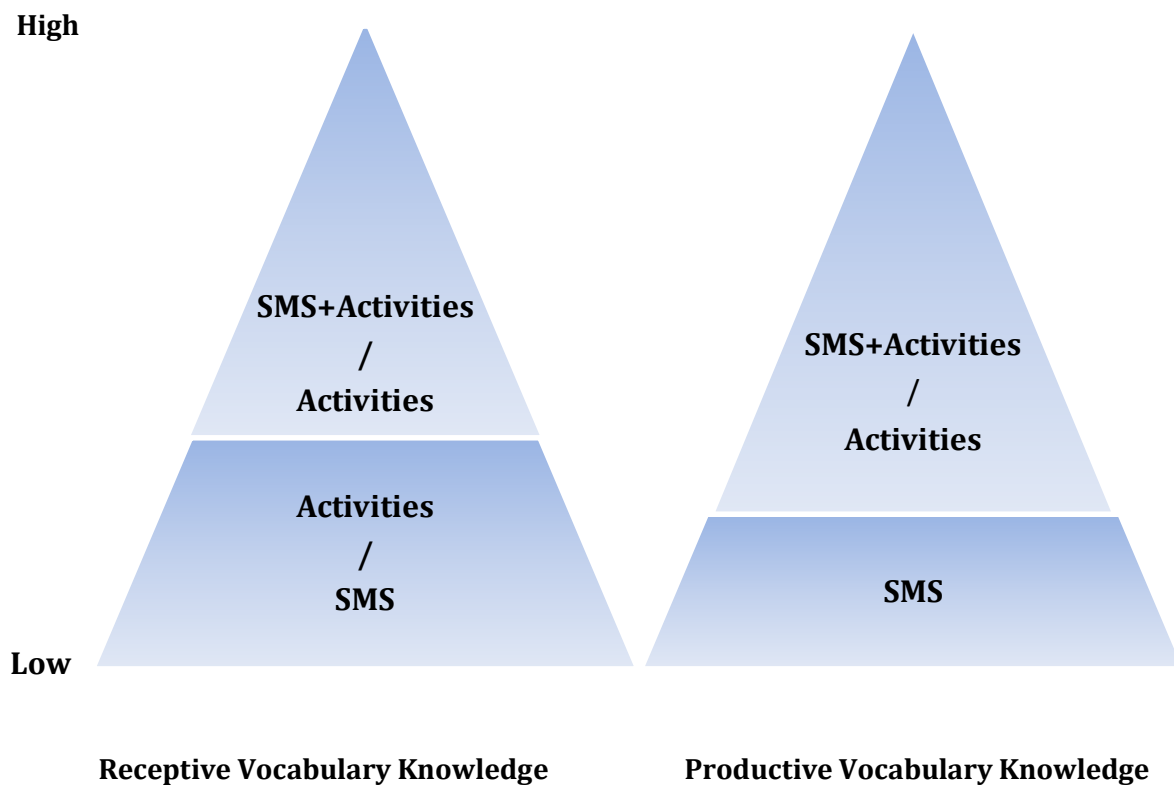
But there are no statistically significant differences between:

- the SMS+Activities and activities in vocabulary reception

- the SMS+Activities and activities in vocabulary production
- the SMS and activities in vocabulary reception

Figure 5.8

The impact of the Three Methods on Receptive and Productive Vocabulary Knowledge



From here, we can answer the research questions the study addressed. In response to the first question about whether the three instructional methods would yield similar or different effects on students' acquisition of vocabulary receptive and productive uses, it can be stated that some lead to similar and others to different results: SMS+Activities and activities methods enhance vocabulary breadth and depth in a similar way despite the fact that the scores are better under the former instruction. Furthermore, the SMS are as effective as the activities in boosting recognition of vocabulary words; scores are higher under word-focused

activities instruction, though. On the other hand, adding short messages to activities enables learners to add more gains to their knowledge of the two facets of vocabulary (receptive and productive) than short messages alone do. In like manner, word-oriented tasks have more potential than SMS in heightening learners' productive use of words. Thus, hypothesis 1, stating that "the use of each method, word-focused activities, SMS, or a combination of both, will yield different results from the other methods in terms of first-year students' receptive and productive vocabulary knowledge", is confirmed since not all pairs brought about similar outcomes, and some pairs of methods led to different effects (SMS+Activities vs. SMS and activities vs. SMS).

The second question is about which method can best assist students in learning vocabulary receptively. SMS proved to foster this aspect of vocabulary knowledge in students, so hypothesis 2 that using short messages is likely to enable first-year students to learn words receptively is confirmed, too.

Concerning the third question about the identification of the method that best assists learners in the task of learning vocabulary productively, the findings reveal that either SMS+Activities or activities only are efficacious in this regard. It follows that hypothesis 3 is also confirmed: using word-focused activities is likely to enable first-year students to learn words productively.

With regard research question four addressing the issue of which method helps the most students in learning vocabulary both receptively and productively, it can be concluded that instruction via the blended or the activities method results in increased receptive as well as productive knowledge. This means that hypothesis 4 is confirmed, for using a combination of word-focused activities and SMS enables students to learn words both receptively and productively.

The last research question addressed in this study says: “What are students’ perceptions of and attitudes towards the use of the different methods for teaching vocabulary?” The answer is provided in the subsequent section about reporting and analyzing the findings of the questionnaire.

5.2 The Findings of the Questionnaires

To get an idea about how students felt about and what they thought of the different instructional methods a questionnaire was given to each group about the method they were subjected to. Some items were designed specifically to each group in isolation; others were common between two groups, either the SMS+Activities and activities groups or the SMS+Activities and the SMS groups. Therefore, when reporting the results, the numbers of responses to the same question from two different groups are added up to have a clearer image and better understanding of the participants’ attitudes towards vocabulary learning via a particular way of instruction.

5.2.1 Detailed Analysis of the Findings of the Questionnaires

For organizational reasons, Table 5.18 demonstrates the number of each item as ordered in the analysis which follows and its corresponding number in either of the three questionnaires. The questions highlighted in green are common between word-focused activities (Appendix E) and SMS+Activities (Appendix G) questionnaires; those in yellow appear on the SMS (Appendix F) and SMS+Activities questionnaires. The last question, in blue, belongs to all questionnaires, and the items uncolored are addressed to one group only, as specified between parentheses.

Table 5.18**Numbers of Items in the Analysis and in the Questionnaires**

NUMBER OF THE ITEM			
Analysis	Activities	SMS	SMS+Activities
1	1	/	11
2	2	/	12
3	3	/	13
4	4	/	14
5	5	/	15
6 (to the activities group only)	6	/	/
7	7	/	16
8 (to the activities group only)	8	/	/
9 (to the activities group only)	9	/	/
10 (to the activities group only)	10	/	/
11	/	1	1
12	/	2	2
13	/	3	3
14	/	4	4
15	/	5	5
16	/	6	6
17	/	7	7
18	/	8	8
19 (SMS group only)	/	9	/
20 (SMS group only)	/	10	/
21	/	11	9
22 (SMS group only)	/	12	/
23	/	13	10
24 (SMS group only)	/	14	/
25 (SMS group only)	/	15	/
26 (SMS+Activities only)	/	/	17
27 (SMS+Activities only)	/	/	18
28 (SMS+Activities only)	/	/	19
29 (SMS+Activities only)	/	/	20
30 (SMS+Activities only)	/	/	21
31 (all groups)	11	16	22

The findings of the questionnaire devised to the word-focused activities method are presented first. It should be mentioned that a total of 50 students (28 in the activities group and 22 in the SMS+Activities group) answered the questionnaire items shared between the two groups while 28 students responded to the questions specific to the activities group only; these are the items numbered 5 and 7. Students' responses were as follows.

Question 1

How did you find the number of activities to study each set of words?

- a. more than adequate
- b. adequate
- c. less than adequate

Table 5.19

Adequacy of the Number of Activities

OPTION	N°	%
a	14	28
b	35	70
c	00	00
unstated	1	2
Total	50	100

The highest percentage of students (70%) found the number of activities sufficient for studying each set of words whilst some of them (28%) believed it to be more than sufficient. 2% provided no answer to this question. When combining results, it ensued that almost all students (98%) found that 5 tasks were enough to study and practice the four target words of each lesson.

Question 2

How did you find the time spent in dealing with the activities?

- a. more than adequate
- b. adequate
- c. less than adequate

Table 5.20

Adequacy of the Time Spent on Activities

OPTION	N°	%
a	13	26
b	34	68
c	2	4
unstated	1	2
Total	50	100

68% of the surveyed students considered the time spent on dealing with the activities as adequate while 26% believed it to be more than sufficient. On the other hand, 4% of the students thought that the time was less than sufficient, and 2% gave no answer to this question. On the whole, the 80 minutes lesson is judged enough to handle the word-focused activities related to each set of four words by most students (34 out of 50), and some of them (13 out of 50) deem it more than sufficient. Hence, the overwhelming majority of students agree on the adequacy of the time devoted to studying each group of words.

Question 3

How did you find the number of four words per session?

- a. big
- b. adequate
- c. small

- Would you justify your answer, please?

Table 5.21

Adequacy of the Number of Words per Session

OPTION	N°	%
a	2	4
b	41	82
c	7	14
Total	50	100

‘Adequate’ is how the greatest proportion of subjects (82%) described the number of words studied every session, for they could learn and remember them, they justified. However, 14% of the participants viewed it as a ‘small’ number, and they preferred to have more words, 6 to 10, in order to be able to enrich their vocabulary repertoire. On the other hand, 4% considered four words to be a ‘big’ number; they thought that less words, 3 or 2, should be dealt with every lesson so that they would not confuse the meanings of words and could remember them well.

Question 4

Did you find the activities varied?

- a. Yes
- b. No

Table 5.22

Variety in the Activities Types

OPTION	N°	%
a yes	45	90
b no	5	10
Total	50	100

Each lesson entailed five task types; some aimed at promoting students' receptive word knowledge such as matching words and definitions, banked gap filling, and MCQs while others targeted productive knowledge, namely paraphrasing and composing. The majority of students (90%) reported to find these activities 'varied'. Few among them (10%), nonetheless, did not think that the tasks were varied enough for them to opt for the 'yes' option in this question.

Question 5

Which types of activities did you find effective for learning vocabulary?

- a. matching words and definitions
- b. filling in the gaps
- c. MCQ (replacing words with their synonyms)
- d. paraphrasing (expressing the idea differently)
- e. sentence / paragraph writing

As table 5.23 demonstrates, when asked about the activities they found effective for learning vocabulary, different students selected different types of activities, and they chose more than one activity. 58% valued sentence or paragraph writing, 50% selected matching words and definitions, 44% picked MCQ (replacing words with their synonyms), 42%

preferred paraphrasing given statements using their own words, and 28% went for filling in the gaps.

Table 5.23

Effectiveness of Different Activities

OPTION	N°	%
a	25	50
b	14	28
c	22	44
d	21	42
e	29	58
Total	/	/

In a nutshell, sentence or paragraph writing was the activity most frequently referred to as effective for learning vocabulary, and gap filling was the least frequently mentioned; in between came the other activities in this order: matching words and definitions, multiple choice question and then paraphrasing.

Question 6

In your opinion, what were the advantages of activities for learning vocabulary?

- a. they were useful for learning words
- b. they were helpful for memorizing words
- c. they were practical for reviewing words
- d. they made learning vocabulary motivating
- e. others:.....

Students held positive attitudes towards word-focused activities, and they supplied many reasons for this. Everyone based his favourable opinion on different motives. Table 5.24 accounts for all of them.

Table 5.24

Advantages of Word-focused Activities

OPTION	N°	%
a	21	75
b	3	64.28
c	14	17.85
d	18	60.71
e	6	21.42
Total	/	/

For instance, the activities were qualified as ‘useful for learning words’ in 75% of students’ responses, as ‘useful for memorizing words’ in 64.28% of the cases, and as ‘motivating’ in 60.71% of students’ replies. For 14 students (17.85%), the activities made a ‘practical’ way for reviewing words when they need to. Six students (21.42%) cited more plausible reasons other than the ones listed in the question. Four of them referred to the fact that ‘repeated practice and teacher’s explanations help with understanding’. The activities assisted one student to “learn from his/her mistakes” and gave another “the opportunity to express [him/herself] and be creative”.

Question 7

What were the disadvantages of the activities?

- a. they were difficult to answer
- b. they were not interesting
- c. there were too many activities
- d. Others:.....

Table 5.25

Disadvantages of Word-focused Activities

OPTION	N°	%
a	19	38
b	3	6
c	14	28
d	18	36
Total	/	/

It should be noted that few students checked more than one answer. 38% of the students deemed the activities as being difficult to answer, and 28% found them excessive, stating that there were ‘too many’ activities. 6% of the participants felt that the tasks lacked sufficient interest and were boring. On the other hand, 36% of the sample appraised the activities as neither difficult, boring nor too many. They had no problems with the activities at all as they specified in the ‘others’ option.

Question 8

In your opinion, how much was using word-focused activities an effective method for learning vocabulary?

- a. very much
- b. much
- c. moderately
- d. a bit
- e. not at all

Table 5.26

Effectiveness of Word-focused Activities Instruction

OPTION	N°	%
a	10	35.71
b	13	46.42
c	5	17.85
d	00	00
e	00	00
Total	28	100

46.42% of the participants pinpointed that using word-focused activities was a ‘much’ effective method for learning vocabulary, and 35.71% of them described it as a ‘very much’ effective method. 17.85 % viewed the method as being effective ‘moderately’. No student thought that this method was effective only ‘a bit’ or ‘not effective at all’. Following these data, there is an overwhelming majority of students (with a percentage of 82.13%) who shared a very positive perception of the efficacy of word-focused activities for learning vocabulary. No student assessed negatively.

The coming section is devoted to the items of the questionnaire that are common between the SMS+Activities and SMS only groups. There are 45 students in both groups: 22 in the former and 23 in the latter. Questions were addressed to the students in the SMS group as they targeted the SMS based method. The last two questions, however, were put forward to the participants in the SMS+Activities group only since they involved comparisons between SMS and word-focused activities instructions.

Question 9

What did you like about word-focused activities as a way for learning vocabulary?

.....

Table 5.27

What Students Liked in Word-Focused Activities

ANSWERS	N°	%
a. effectiveness for learning and memorizing words	13	46.42
b. fun and enjoyment	5	17.85
c. utility	4	14.28%
Total	/	/

The answers to this question were similar and recurring which allowed for grouping them in three main groups, namely effectiveness for learning and memorizing words, fun and enjoyment, and utility, as shown in Table 5.27 and explained below.

First, 13 students (46.42%) said that they liked word-focused activities because they were very useful for learning and memorizing new vocabulary items. This is the case because, according to them, the varied activities included a lot of synonyms which led to enriching their word banks. Another reason students gave for liking the activities was the ample practice they had; working repetitively with the same words through different activities resulted in learning them by heart. A further reason why the activities were effective was the teacher's explanations. Interaction with the teacher, students asserted, gave them better understanding of what the words mean and when and how to use them appropriately.

Second, word-focused activities were a source of enjoyment for some students (five or 17.85%) because they were 'short and varied', in students' words. A student reported to enjoy them as much as s/he enjoys games.

Third, the words learned via word-focused activities were of use for 4 students (14.28%) in their lives in general and in other modules in particular. They resorted to them to better express their ideas both orally and in writing, and as stated by one of them this vocabulary instruction “gave me the opportunity to express myself and be creative” in so doing. The activities made few other students (7.14%) aware of mispronunciations they used to make when uttering some target words and helped them to correct these errors, and another one (3.57%) reported that, thanks to the activities, s/he was able to learn from his/her mistakes without specifying whether the mistakes related to pronunciation, spelling, meaning, or any other aspects of the words.

Question 10

What didn't you like about word-focused activities as a way for learning vocabulary?

.....

Table 5.28

What Students Disliked in Word-Focused Activities

ANSWERS	N°	%
a. excessive number	5	17.85
b. difficulty	2	7.14
c. repetition	1	3.57
Total	/	/

Despite all the positive aspects students associated with word-focused activities in response to question 9 above, some referred to few negative aspects as well. A small proportion of students mentioned that the tasks were numerous (5 participants representing 17.85% of the sample); few estimated them as difficult to answer (2 students or 7.14%), and one student (3.57%) drew attention to the fact that the tasks were repetitive, for they had to

deal with the same type of activities every session. Few others (10.71%) disliked ‘nothing’ about the activities.

Question 11

Do you like to ?

- a. receive SMS
- b. send SMS
- c. both of them
- d. none of the them

Table 5.29

Students’ Use of SMS

OPTION	N°	%
a	21	46.66
b	3	6.66
c	18	40
d	3	6.66
Total	45	100

44.44 % of the students reported to like receiving short messages whilst 6.66% preferred to send them. 40% liked both receiving and sending messages while 6.66% showed no interest for either of the two options. Very few participants (6.66%) stated that they did not like using SMS. Fortunately, the vast majority (84, 44%) had no problem receiving SMS which is favorable for carrying out the experiment in convenient circumstances.

Question 12

Have you participated in SMS based learning before this time?

- a. Yes
- b. No

- if 'yes', would you please tell what the SMS were about?

.....

Table 5.30

Students' Previous Participation in SMS-based Learning

OPTION	N ^o	%
a	1	2.22
b	44	97.78
Total	45	100

This was the first time for 97.78% of the students to take part in SMS based learning. One student (2.22%) reported to have participated in such experience before. Providing details in the next part of the question, s/he indicated to have received SMS about grammar lessons on messenger. From these findings, it is expected that the experience will generate some excitement in participants and, hopefully, have them read the push messages regularly.

Question 13

When did you read each new SMS you received (SMS with a new set of words)?

- a. as soon as you received it.
- b. some time after you received it.
- c. later on, when you were free.
- d. Only if possible. If not, you did not read it at all.

Table 5.31

When Students Read the SMS

OPTION	N°	%
a	11	24.44
b	18	40
c	15	33.33
d	1	2.22
Total	45	100

40% of the students read the short messages ‘some time after’ receiving them; 33.33% read them ‘later on’ when they were free. 24.44% cared about reading the SMS ‘as soon as’ they received them. One participant (2.22%) admitted that s/he read the SMS ‘only if possible’; if not, s/he did not read them at all.

In fact, to be efficient, the short messages are sent at points of time specified in the forgetting curve (See Chapter 4) and should be read at the time of reception, so lack of adherence to the right time for reading the SMS is likely to have negatively influenced students’ learning of the vocabulary items.

Question 14

How many times did you read each new SMS (SMS with a new set of words)?

- a. once
- b. twice
- c. three times
- d. four times
- e. five times
- f. others:.....

Table 5.32

Frequency of Students' Reading of Each New SMS

OPTION	N°	%
a	15	33.33
b	12	26.66
c	11	24.44
d	4	8.88
e	1	2.22
f	2	4.44
Total	45	100

Each SMS with a new set of words was read 'once' by one third of the students (33.33%), 'twice' by 12 students (26.66 %), 'three times' by 11 participants (24.44%), 'four times' by 4 students (8.88%) and 'five times' by one student (2.22%). Moreover, two students (4.44%) reported to have checked each SMS the number of times it took for them to learn the words by heart, without specifying if these repetitions were less or more than five. These responses, like the ones to question 13 above, show that there was lack of commitment on the part of students in reading the messages the number of times necessary, which, once again, might have a negative effect on the outcome of the treatment.

Question 15

If your reading of the SMS was irregular, would you please specify the number of times you read each new vocabulary SMS?

- a. SMS with the **first** set of words (comprehensive, adjacent, somewhat, subsequently):.....times.

- b. SMS with the **second** set of words (hence, significant, adjust, aspect):.....times.

- c. SMS with the **third** set of words (advocate, generate, controversy, perceive):.....times.
- d. SMS with the **fourth** set of words (incentive, adequate, potential, sustain):.....times.
- e. SMS with the **fifth** set of words (criteria, approach, accurate, emphasize):.....times.

Table 5.33

Repetitions in Reading of Each new SMS

OPTION		a (set 1)	B (set 2)	c (set 3)	d (set 4)	e (set 5)	MEAN
N° OF READINGS							
00 times	N°	00	00	1	2	3	1.2
	%	00	00	2.22	4.44	6.66	2.66
1 time	N°	13	13	11	11	13	12.2
	%	28.88	28.88	24.44	24.44	28.88	27.11
2 times	N°	13	14	9	13	11	12
	%	28.88	31.11	20	28.88	24.44	26.66
3 times	N°	13	9	15	12	10	11.88
	%	28.88	20	33.33	26.66	22.22	26.22
4 times	N°	3	5	5	3	4	4
	%	6.66	11.11	11.11	6.66	8.88	8.88
5 times	N°	00	2	2	00	1	1
	%	00	4.44	4.44	00	2.22	2.22
6 times	N°	1	00	00	2	1	0.8
	%	2.22	00	00	4.44	2.22	1.77
unstated	N°	2	2	2	2	2	2
	%	4.44	4.44	4.44	4.44	4.44	4.44
Total	N°	45	45	45	45	45	45
	%	100	100	100	100	100	100

This question is asked seeking to get information about repeat-reading of each set of words in case the students have not remained consistent in their reading of the messages. To speak the data in Table above in a practical way, they are read globally not individually. First of all, the results showed that there was a decrease in the number of readings; as more new SMS were sent, the number of readings went down. To clarify, the first and second messages were read by all students; the third is not read by one student, the fourth by two students, and the fifth by three students. Furthermore, the mean for each number of readings is calculated. The results demonstrated that the mean percentage of reading each set of words ‘once’ was

27.11%, and it was 26.66% for ‘two readings’, 26.22% for ‘three readings’, 8.88% for ‘four readings’, and 2.22% for ‘five readings’.

It is worth noting that this question allowed for more specific answers on the part of students. For instance, 2.66% revealed that they did not read some messages whatsoever; conversely, 1.77% stated to have repeatedly read some messages up to ‘six times’. Furthermore, in 4.44% of the cases, the answers remained unstated.

It can be noticed that the results Table 5.33 includes are approximately duplicates of their corresponding figures in Table 5.32. In other words, students’ responses to this question and to the former one are consistent, for they reveal that most participants read the messages once, twice or three times, on average. Very few read them four times, and even precious few read them 5, 6, or more times.

Question 16

Which part of the SMS did you read?

- a. word and definition
- b. example sentence only
- c. both of them

The results displayed in Table 5.34 reveal that the majority of the participants (71.11 %) used to read both the words’ definitions and example sentences. 22.22 % of them limited their reading exclusively to the definitions while 6.66% to the example sentences solely.

Table 5.34

The Part of the SMS Read by Students

OPTION	N°	%
a	10	22.22
b	3	6.66
c	32	71.11
Total	45	100

Accordingly, the largest part of the students could acquire knowledge about not only what a word means but also how it is used in different contexts.

Question 17

Was the timing of receiving the SMS appropriate?

- a. Yes
- b. No

- If “No”, would you please explain why:.....

Table 5.35

Appropriateness of SMS Reception Time

OPTION	N°	%
a	42	93.33
b	3	6.66
Total	45	100

Almost all students 93.33 % found the reception time of the push messages appropriate; however, 6.66 % of them found it inappropriate. To explain why the timing was

not convenient for them, one student mentioned that s/he was taking other classes (in preparation for the baccalaureate exam). Another student's reason was that s/he fell asleep early and could not stay awake to read the last SMS of the day, which was received around 8 p.m. A further participant gave no reason at all, stating that s/he found the timing inappropriate "Just like that"!

Question 18

How did you find the number of four words per SMS?

- a. big
- b. adequate
- c. small

-If not adequate, how many words would you prefer to receive per SMS?..... words per SMS.

Table 5.36

Adequacy of the Number of Words per SMS

OPTION	N°	%
a	28	62.22
b	14	31.11
c	3	6.66
Total	45	100

When asked about the adequacy of the number of words per SMS, 28 students (62.22%) said that four words in each SMS was 'big', for they preferred to receive fewer words. In the second part of the question, different suggestions were made. 18 students (40%) proposed that it was enough to have 3 words in each SMS; nine other students (20%) proposed 2 words per SMS, and one student (2.22%) thought of 1 word per SMS. The number of 4 words per SMS caused no learning difficulties or inconveniences for nearly one third of

the participants (31.11%) who assessed it as being ‘adequate’. Yet, this number was ‘small’ according to three students (6.66%) who were willing to receive more words in each SMS. In a nutshell, less words than four per SMS was the request of nearly two thirds of the students for the sake of better learning and longer lasting memorization, probably. Nevertheless, about one third of the sample asked for more words; perhaps, they were eager to broaden their vocabulary repertoires.

Question 19

How did you find the number of repetitions of each SMS (5 times) for learning the words by heart?

- a. more than necessary
- b. adequate
- c. less than necessary

Table 5.37

Adequacy of SMS Repetitions for Memorising Words

OPTION	N°	%
a	8	34.78
b	14	60.86
c	1	4.34
Total	23	100

Repeating an SMS with the same set of words 5 times over 4 days was enough for 60.86 % of the students to memorize these words, but it was more than necessary for 34.78 % of them and less than necessary for 4.34%. Thus all students, apart from one, assessed the number of repetitions for each set of words as sufficient for memorization to take place.

Question 20

What were the advantages of SMS-based method for learning vocabulary?

- a. useful for learning vocabulary
- b. helpful for memorising vocabulary
- c. practical for reviewing words anywhere, anytime
- d. makes learning vocabualry motivating
- e. Others:

Table 5.38

Advantages of SMS-based Learning

OPTION	N°	%
a	10	43.47
b	11	47.82
c	11	47.82
d	12	52.17
e	6	26.08
Total	/	/

As the data in Table 5.38 show, more than half of the participants (52.17) felt motivated to learn vocabulary through SMS. The same percentage of students (47.82%) found the SMS, one time, helpful for memorizing words by heart, and another time, practical for reviewing them at will. 43.47% were enabled to learn new words by means of useful SMS. 26.08% of the students added other advantages: 17.39% mentioned fun, and 8.69% made reference to ease of learning through this way.

Question 21

What were the disadvantages of SMS based method for learning vocabulary?

- a. difficult to read from the small screen of the mobile phone
- b. long texts
- c. too many SMS
- d. interrupt my daily activities
- e. others:.....

Table 5.39

Disadvantages of SMS-based Learning

OPTION	N°	%
a	5	11.11
b	7	15.56
c	20	44.44
d	4	8.88
e	16	35.52
Total	/	/

For roughly half of the participants (44.44%), the main problem this method posed related to the number of the SMS they received. They complained that the messages were ‘too many’. 15.56% felt that the texts were long, and 11.11% found it difficult to read the messages from the small screen of their mobile phones. Four students (8.88%) criticized the SMS for interrupting his/her daily activities. Conversely, under the option ‘others’, 35.52% mentioned other issues: 12 students (26.66%) reported to experience no problems at all with SMS based learning. Two of them (4.44%) mentioned that the messages caused storage problems; they left no free memory on their phones. Another couple of students (4.44%)

expressed their annoyance of the distracting effect of the surrounding noise when reading the SMS.

Question 22

In your opinion, how much was using SMS an effective method for learning vocabulary?

- a. very much
- b. much
- c. moderately
- d. a bit
- e. not at all

Table 5.40

Effectiveness of SMS-based Instruction

OPTION	N°	%
a	7	30.43
b	5	21.73
c	5	21.73
d	4	17.39
e	2	8.69
Total	23	100

According to the data in Table 5.40 above, 30.43 % of the subjects under the SMS condition thought that the SMS-based method was ‘very much’ effective for learning vocabulary, and 21.73% of them believed it to be ‘much’ effective. The same percentage of participants (21.73%) perceived it as ‘moderately’ effective whereas 17.39% thought it was effective only ‘a bit’, and 8.69% did not find it effective ‘at all’. In brief, for about three quarters of the students (73.89%), SMS could enhance learning vocabulary very much, much or at least moderately.

Question 23

In the future, which aspects of English would you like to learn through SMS?

- a. more words
- b. grammar structures
- c. pronunciation
- d. others:.....

Table 5.41

Language Aspects to Teach via SMS in the Future

OPTION	N°	%
a	28	62.22
b	25	55.55
c	15	33.33
d	1	2.22
Total	/	/

Many students (62.22%) would like to receive more SMS with more vocabulary words. 55.55% wished to have the opportunity to learn grammar rules via SMS while 33.33% preferred to receive short messages which would help them to improve their pronunciation skills. One student (2.22%) proposed, in the option 'others', to utilize SMS to study English proverbs. According to these results, it seems that students were satisfied with learning vocabulary through SMS, and they wanted to try other aspects of the language by means of the same method in the future.

Question 24

What did you like about SMS as a way for learning vocabulary?

.....

Table 5.42

What Students Liked in SMS-based Learning

ANSWER	N°	%
a. usefulness for learning and memorizing words	11	47.82
b. practicality	5	21.73
c. interest and motivation	4	17.39
d. ease of learning	3	13.04
e. fun and enjoyment	3	13.04
Total	/	/

The reasons students gave for liking SMS-learning were varied but returning, so it was possible to group them under the headings displayed in Table 5.42. Eleven students (47.82%) stressed the fact that this method was very helpful for them not only to learn but also to memorize many new words. A student stated it in these words: “SMS are like a daily reminder; they are the best solution for learning vocabulary.” S/he added that students forget what they learn inside the classroom swiftly after leaving it, and the SMS helped them remember information once receiving them at home.

Five participants (21.73%) focused on the practicality of learning through SMS. They found it practical to learn outside the classroom, anytime, anywhere. Therefore, they explained, it was an efficient way to take advantage of both time and technology, especially

that they have their phones on them and do use them all the time. In this way, they were able to receive knowledge ‘directly and quickly’.

Four subjects (17.39%) pinpointed that the short messages carrying words, their definitions, and sample instances of use which they received were ‘really’ interesting and motivating for learning vocabulary because it was an unusual way to do so.

Three students (13.04%) made reference to the easiness with which learning vocabulary occurred thanks to short messages. It was ‘simple and effortless’. They praised the fact that they needed not to search for words by themselves; instead, they straightforwardly, at home, received words in SMS, and all that they had to do was to read them.

Three other students (13.04%) expressed their likeliness of this method because of the fun and enjoyment it generated in them. Some found it amusing and pleasant to use their mobile phones for learning purposes. Others found receiving and reading the SMS ‘funny, interesting and motivating.’ It was such an exciting experience for one of them that he said: “It is the first time that I enjoy learning.”

Furthermore, two students had totally contrasting views about SMS-based instruction; one (4.34%) reported to like ‘nothing’ related SMS and the other (4.34%) to like ‘everything’ about it.

Question 25

What didn’t you like about SMS as a way for learning vocabulary?

.....

Table 5.43

What Students Disliked in SMS-based Learning

ANSWER	N°	%
a. boredom	6	26.08
b. difficulty to read from small screen	1	4.34
c. text length	1	4.34
d. interruption of daily activities	1	
e. nothing	3	13.04
Total	/	/

On the other hand, students listed a number of drawbacks for SMS-based learning. These are listed in Table 5.43 below. According to learners, it might get boring to read many messages about the same words (the case of 6 or 26.08%). Moreover, reading from the small screen was not always pleasant for one student (4.34%), especially when the text was long (4.54%), or when the reader was busy doing something else (4.34%). However, 3 informants (13.04%) disliked ‘nothing’ about this method.

Question 26

How do SMS compare to word-focused activities? Tick in the right box.

COMPARISON ITEM	SMS	ACTIVITIES
a. more useful for learning words		
b. more helpful for memorising words		
c. more practical for reviewing vocabulary		
d. making learning vocabulary funnier		
e. more motivating		
f. more difficult		

Students in the SMS+Activities group were the best placed to make comparisons between the two instructional methods, so they were asked this question to find out in which aspects a given type of instruction is better than the other. The findings are presented in Table 5.44.

Table 5.44
Comparing SMS and Word-focused Activities

COMPARISON ITEM	SMS		ACTIVITIES		NONE	
	N	%	N	%	N	%
a. more useful for learning words	3	13.63	19	86.36	/	/
b. more helpful for memorising words	18	81.81	4	18.18	/	/
c. more practical for reviewing vocabulary	9	40.90	13	59.09	/	/
d. making learning vocabulary funnier	15	68.18	7	31.81	/	/
e. more motivating	10	45.45	10	45.45	2	9.09
f. more difficult	6	27.27	13	59.09	3	13.63

On the one hand, 86.36% of the students viewed word-focused activities as more useful than the SMS for learning vocabulary words whereas 13.63 % believed the SMS to be more useful. On the other hand, regarding which way was more helpful for better memorisation of words, 81.81% of the students opted for short messages while 18.18% selected activities. According to 59.09% of the students, activities were more practical for reviewing vocabulary, and for 40.90% of them, the SMS were better in this regard. 59.09% found the activities difficult to answer, and 27.27 % felt that the SMS were difficult to handle whilst 13.63 % maintained that neither the messages nor the activities were difficult to deal with. Fun is a characteristic of SMS based learning according to 68.18% of the students, and it is a characteristic of word-focused activities for 31.81% of the participants. A percentage of 45.45% of students described SMS as being more motivating than activities; a similar

proportion (45.45%) of the students thought the opposite was true: activities were more motivating than SMS. Yet, 9.09% found them equally motivating.

In summary, SMS were as motivating as activities, but a more helpful, funnier and easier way for learning words and memorizing them. Activities, on the other hand, were more useful for learning words and more practical for reviewing them even if they were more difficult to handle.

Question 27

In your opinion, how much was using a combination of SMS and activities effective for learning new words?

- a. very much
- b. much
- c. moderately
- d. a bit
- e. not at all

Table 5.45

Effectiveness of the SMS+Activities Method

OPTION	N°	%
a	15	68.18
b	5	22.72
c	2	9.09
d	00	00
e	00	00
Total	22	100

The largest number of students (68.18%) praised the blended method by stating that it was ‘very effective’ for growing one’s knowledge of vocabulary. 22.72% qualified it as being ‘much’ efficient whereas 9.09% viewed that the method succeeded in assisting them to increase their vocabulary ‘moderately’. It can be inferred that students thought that using SMS and activities in conjunction was really efficacious for attaining the aim of acquiring words since no one among them selected ‘a bit’ or ‘not at all’ to describe how effective the method is.

Question 28

In the future, through which method would you like to learn new words?

- a. SMS only
- b. activities only
- c. a combination of both SMS and activities

Table 5.46

Preferred Method for Future Vocabulary Learning

OPTION	N°	%
a	00	00
b	3	13.63
c	19	86.36
Total	22	100

For learning vocabulary words in the future, 86.36% of the students’ favored way was to join SMS and activities in a fused way. 13.63% preferred to study words intensely in activities devised for this purpose. No student (00%) opted for SMS only method; learners showed no complete trust in reading words along with their definitions and example sentences received on SMS for being enough for learning to take place. We may conclude that the

SMS+Activities method was of greater help for learners in the task of vocabulary learning, more than SMS or activities in isolation were.

Question 29

20. What did you like about combining SMS and activities together as a way for learning vocabulary?

.....

Table 5.47

What Students Liked in the SMS+Activities Method

ANSWER	N°	%
a. assisting long lasting memorisation	6	27.27
b. boosting vocabulary learning	5	22.72
c. fostering understanding more	5	22.72
d. facilitating reviewing words	2	9.09
Total	/	/

It was noticed that when considering this method, almost all students put emphasis on the combination of the SMS and activities by using the word ‘both’. More than a quarter of the students (27.27%) liked them because ‘both’ assisted them in memorizing permanently words they studied. 22.72% of the subjects felt that ‘both’ ways boosted vocabulary development, as clearly formulated by a student: “Both are important to develop my English vocabulary.” Another 22.72% pointed out that they were important because ‘both’ fostered understanding more than if only one method were used in isolation. A very small number of students (9.09%) found the blended method useful for reviewing words when willing to.

Question 30

20. What didn't you like about combining SMS and activities together as a way for learning vocabulary?

.....

Table 5.48

What Students Disliked in the SMS+Activities Method

ANSWER	N°	%
a difficult activities	7	31.81
b boring SMS	5	22.72
Total	/	/

Two remarks were made here. First, students dealt with this question in a way totally different from that of the previous question: 'both' is not used here as they did not refer to a problem common to both methods; instead, they listed negative aspects for one method or the other. Second, the limitations identified are those cited earlier in previous items. For instance, some students mentioned that the SMS were too many, too long, and not easy to read from the small screen-sized phones. This made them boring for 22.72% of the informants who answered this question. Likewise, the activities were complicated and not easy to answer for 31.81% of the learners who responded to this item.

Question 31

Please, feel free to add any further comments or suggestions related to the purpose of this questionnaire.

.....

Participants in each group were requested to add any comments and suggestions relevant to each method in view of improved future implementation of the three methods.

As far as the SMS-based learning is concerned, participants belonging to the SMS and the SMS+Activities groups have provided a number of insightful comments and suggestions which can be summarized as follows. Under the area of ‘comments’, the main point relates to the approbation of the method. In fact, 23 students out of 45, representing the percentage of 51.11 %, confirmed the idea of using SMS to teach vocabulary to be ‘a good idea’. They used words like ‘good, nice, beneficial, successful, great, amazing, and the best solution’. If anything to be deduced from these descriptions, it is that they appreciated it to varying degrees. Some seem to be reasonable about SMS utility; others appear more enthusiastic, and many, especially, insisted that they loved it.

Following appraising and praising SMS-based instruction, students put forward a number of suggestions. First, they wished that this ‘new, modern, and creative’ method would be implemented in the educational system since, as a student put it, “It is the best way of teaching, and we wish that the future generations *will learn with it* [could benefit from it].” Second, the content of the SMS should be varied and not only study related. In addition to pronunciation tips and grammar rules, students urged teachers to send them ‘motivating quotes’ and ‘poetry verses’ to encourage them and lift their spirits. For a faithful representation of the data, it may be noted that the researcher received many thanks from students for sending them vocabulary SMS and making them part of a ‘new and good experience’, and that is putting it mildly.

With reference to word-focused activities instruction, and according to the responses of students under the activities and the SMS+Activities groups, the most important conclusion drawn was that all students esteemed and appreciated it to a great deal; they considered it

'important, necessary, and effective', much more effective than SMS. They also hinted that the advantages of word-focused activities method far outweighed its disadvantages. For this reason, many students asked for more similar activities to learn more words for their efficiency in enabling them to learn words 'easily and quickly'. Others recommended to have more varied and easier activities. Further students suggested studying only 3 or even 1 word per session but more thoroughly; that is, to consider different features of the same word(s) such as pronunciation, spelling(s), derivatives, inflected forms, collocates, and all possible meanings a word may have.

With regard SMS and word-focused activities blended method, students in the SMS+Activities group provided perceptive comments and suggestions, too. On the whole, students found the combination very effective for learning vocabulary and thus recommended its use in the future. Many specified that activities were useful for learning words and the short messages were useful for memorizing them.

5.2.2 Overall Analysis of the Findings of the Questionnaires

The results of the surveys underscored a number of major points, some of which have already emerged from the experiment. These findings can be sorted out in a way to spotlight the most salient issues while striking comparisons between the methods.

- Students are used to learning vocabulary through activities but not through SMS. This is a new experience for them.
- According to half of the students, SMS were 'very much' or 'much' effective for learning vocabulary words while the majority of subjects thought the same of word-focused activities, especially sentence/paragraph writing and matching words and their definitions.

- Students were mostly concerned either with the excessive amount of SMS they received or with the difficulty they experienced when approaching the tasks.
- The rate of repetition for sending the same SMS (5 times) and the number of activities (5 per lesson) were sufficient for studying and learning the words in the opinions of many students.
- The greatest part of the students under the activities condition found studying four words each session 'adequate', but they were 'too many' for their SMS counterparts.
- The reception time of the push messages was convenient for the overwhelming majority of the SMS participants, and the time allotted to the activities was also suitable for most learners in the activities group.
- By way of comparison, SMS and activities generated the same level of motivation in students. However, they differed in the degrees of usefulness, practicality, fun, and ease. Activities were attributed higher levels of effectiveness despite their difficulty while SMS were associated with greater fun and ease to cope with.
- Each method in isolation was recommended for upcoming vocabulary instruction by students who tried it, yet more students advocated activities, and when students in the third condition were asked to choose among the three methods, nearly all of them opted for the blended method.
- One strength of using activities related to engaging with them on the spot while interacting with classmates under the observation and guidance of the teacher. In contrast, learning from SMS lacks these features. Students had more freedom in this regard which resulted in one weakness of the method: delaying reading the SMS, in best cases.

- On the whole, favorable attitudes were expressed towards SMS, word-focused activities and their combination. Still, it is possible to arrange them in two different ways. Based on students' enthusiasm, SMS comes first, but when relying on their evaluation of method effectiveness for learning vocabulary, primacy is given to activities and SMS together and to activities alone, but not to SMS alone.

5.3 Consistency with Previous Research

In general, the findings of the current study are in line with a number of studies considered in the review of literature in the current research. As far as SMS is concerned, in chapter three, empirical evidence was supplied as to show the efficiency of SMS in vocabulary instruction when used alone (e.g., Thornton and Houser, 2005; Kennedy and Levy, 2005) or in comparison with some other methods such as self-study on paper (Lu, 2008) board and paper (Motallebzadeh and Ganjali, 2011) dictionary use (Alemi and Lari, 2012) emails, hardcopy handouts and Facebook messages (Katz, 2015). The present study adds to this evidence, yet the increase is relatively modest as against word-focused activities.

When reviewing the literature, very few studies reported that intervention via SMS lead to slight improvement in participants' vocabulary learning. One such study is that of Song (2008) where she found that SMS enhanced students' performance only 'marginally'. Zhang, Song and Burston's research (2011) is another one. They contended that SMS technology inherent shortcomings restrict its efficacy as a means to teach and learn vocabulary, particularly for long term recall. This seems to concur with the outcomes of this study since the improvement participants attained was not very high regarding productive use of vocabulary.

The findings of this study are similar to the findings of Laufer and Rozovski-Roitblat's study (2011) where they compared word-focused activities, repeated exposure in reading, and

their combination. She found that word-focused activities are more effective than frequency of encounters with words. She found that the scores in the exercises condition were higher as opposed to those in the repeated encounters in text.

In the studies conducted by Corbeil and Corbeil (2011), Zhang et al., (2011), and Laufer and Rozovski-Roitblat (2011), and Hayati, Mashhadi and Jalilifar (2013) although the majority of students welcomed mobile learning, a small number of them had reservations mainly about the hardware features and pedagogical practices. Some of the justifications students in these studies provided are similar to those students in this study made reference to, namely the device small screen, memory capacity, the text length, interaction with daily activities and the preference of learning as a real-world, authentic experience over being a virtual one.

Conclusion

This chapter entailed the reporting and discussion of the findings of the present study collected from the experiment and the questionnaire designed to participant students. To begin with, the results of the pre-test and the post-test suggest that training through each of the three methods under consideration here, word-focused activities, SMS, and their combination has positive effect on students' performance. They lead to improvement in receptive and productive vocabulary learning, to different levels though. The research hypotheses set at the outset of the study were supported. It has been confirmed that SMS improve receptive knowledge; word-focused activities enhance learners' productive vocabulary knowledge, and the blended method whereby activities and SMS amalgamate boosts both receptive and productive components of vocabulary knowledge.

Likewise, the questionnaire provides thorough data about students' attitudes and opinions vis-à-vis the methods examined here. It serves as a post-experiment evaluation tool and is useful to answer the last research question about how students would receive the different instructions. Indeed, its findings show that learners communicated a general satisfaction with each of the instruction types. Yet, they seem to value activities more than SMS, to like SMS more than the activities, and to prefer their combination for any future instruction.

Based on these findings, a number of pedagogical implications and recommendations for vocabulary teaching and learning are inferred and outlined next in chapter six.

CHAPTER SIX: PEDAGOGICAL IMPLICATIONS AND RECOMMENDATIONS

Introduction

The results of this study showed that short messages, activities and their combination have the potential to enhance different types of vocabulary knowledge, receptive and productive, to different degrees, high and moderate. In this chapter, we report on what implications this study has for vocabulary instruction in theory and practice. In addition, we impart some recommendations for teachers and students on how to take advantage of each of the three methods to boost vocabulary knowledge, which is key to success in language learning. Furthermore, we expose several limitations we faced in the course of conducting this study, and we put forward a number of suggestions to transcend these restrictions in future research.

6.1. Theory-related Implications

In this section, we try to provide information which add to some issues raised in the review of literature. This, in fact, helps to bring to best light the links between the theoretical and practical parts of this research.

6.1.1 Implicit and Explicit Vocabulary Learning

The controversy between implicit/accidental and explicit/intentional ways of learning vocabulary and the arguments for one way or the other are discussed in sections 1.6.2.1 and 1.6.2.2 of chapter one. To recall, a learner learns vocabulary implicitly unconsciously as a by-product of an activity not intended to learning vocabulary per se, essentially reading. On the other side, learning becomes explicit when the learner puts effort to memorize lexis consciously. This intentionality in memorization comes mainly from informing learners that

they will be tested on the vocabulary they studied as this ignites in them the will to commit it to memory (Chapter 2, section 2.5.2).

The outcomes of the current study reinforce the first idea. Subjects were not informed about the upcoming (post)test, and they were neither asked nor even encouraged to put any effort in learning the target words by heart. Yet, acquisition took place. Therefore, more evidence is added to the claim that accidental learning is of use in the instance of vocabulary.

6.1.2 Significance of FFI in Vocabulary Instruction

Reference has been made to the importance of FFI in the language classroom. In chapter two (section 2.6), the benefits of FFI for teaching several aspects of a TL in general and vocabulary in particular were enumerated. The current study provides further evidence of the effectiveness of FFI in the case of vocabulary. To be precise, incidental focus on forms vocabulary teaching (FonFs), as defined by Laufer (2010), is not only efficient but also needed. Taking words discretely as the ‘object’ of instruction should be part of an EFL classroom; it is not necessary to attend to them within a communicative task. Participants in this study were able to widen their receptive and productive knowledge of instructed words without learning them communicatively in information gap, opinion gap, or reasoning gap tasks, for example.

6.1.3 Word Repetition vs. Word Processing

The significance of repetition for vocabulary learning is an issue addressed in chapter 1, section 1.8, and that of word processing in Chapter 2, section 2.8. These sections underscore how important these dynamics are. In the present study, repeated exposure to words is ensured through SMS and deep processing of words through word-focused activities. The results reveal that repetition leads to an impact equivalent to that of processing on

learning words receptively. In fact, there was no statistically significant difference between SMS and activities methods as far as vocabulary recognition is concerned. However, on the productive type of knowledge, the effect of deep processing of words is more sizeable than that of exposure. The difference was statistically significant. That is, activities proved to be better than SMS for boosting students' vocabulary production. To wrap up, word-focused activities (processing) are as effective as SMS (repetition) for improving students' vocabulary reception, but the former method is more efficient than the latter when it comes to fostering vocabulary production.

6.1.4 Significance of Word-focused Activities in Vocabulary Instruction

In the second theoretical chapter, in section 2.10 precisely, empirical evidence is provided as how useful word focused activities are for vocabulary learning to take place. The outcomes of this study are in this direction. They add to the arguments for using vocabulary exercises in the EFL classroom. First, learners under this condition gained a substantial amount of receptive and productive knowledge of the target words. Second, it was similar to that gained by their counterparts under the blended condition. Statistical tests proved that the difference was not significant. Thus, this method is as effective as the blended one for promoting both passive and active vocabulary use by students.

Besides, according to the findings of the questionnaire, word-oriented activities turned out to be highly valued by students; learners have very favourable attitudes towards them and trust them as an effective means to learn vocabulary.

6.1.5 Significance of SMS in Vocabulary Instruction

Many researchers such as Thornton and Houser (2005), Kennedy and Levy (2005), and Alami and Lari (2012), to name only a few, gave empirical evidence of the effectiveness of SMS in vocabulary instruction (chapter 3, section 3.17). Words, idioms, and mini lessons

were sent to students via SMS; the instruction was successful, and learners obtained good results in post-tests. Participants in the present study also got better scores in the receptive and productive post-tests. The positive effect of SMS was greater in reception than in production, though. The SMS method is as effective as the activities method for teaching vocabulary recognition, but less effective for teaching the production aspect, as proved by statistical tests.

6.1.6 Potentials and Limitations of SMS-based Instruction

Like any type of instruction, mobile-assisted language learning, including the use of SMS, has its strengths and weaknesses. In chapter three, section 3.5 pointed out to the benefits of MALL, section 3.9 to its limitations, and section 3.16 to the merits of SMS in vocabulary instruction. Some of the points specified by writers and cited in these sections are referred to again by participants in this study. Novel, user friendly, and funny are the descriptions learners gave to SMS-based learning. Nonetheless, several reproaches were formulated against it, notably difficulty to read from small screens, disruption of everyday activities, and the length of texts.

6.2 Practice-related Pedagogical Implications

More general implications for the best course of action and classroom practices ensued from this study are discussed first, then a set of guidelines are proposed for a more efficient implementation of each method in vocabulary instruction in the future.

2.6.1 Vocabulary Focused Instruction in the Content Area

One important finding of the present study is that when delivering content, teachers tend to emphasize meaning at the expense of form. That is to say, little attention is given to language form, vocabulary in our case. When a new word or expression is encountered, it is explained via a synonym, a definition, or an example sentence, and the lecture is resumed

promptly. This seems to be insufficient for vocabulary learning to take place; forgetting is highly probable. Hence, more attention should be paid to introducing unfamiliar lexical items i.e., some FFI in the form of vocabulary focused instruction is requisite.

An implication for vocabulary instruction dictated by this fact is that teachers of different subject matters should give importance to teaching vocabulary items most frequently used in their content area. They should avoid passing through a new or a difficult word by quickly giving an explanation to or an example of it because they think that presenting content is more important than dealing with vocabulary, or because they believe it to be the students' task to extend their word stores, as put by a teacher when conversing with her about the issue of vocabulary learning. However, attending to key words is required, and teachers should feel responsible for this process. They should not view it as a waste of time, especially when teaching freshmen who need to enlarge their vocabulary to be able to cope with university discourse.

For this end, teachers can make recourse to various methods. For instance, via the methods presented here, a good number of words can be learnt in a short period of time. Depending on the content they deliver, teachers can devise word-focused activities to enhance productive vocabulary knowledge in students, especially those who teach expressive skills such as written and oral expression. Or, they can occasionally send SMS with word meanings to increase students' receptive knowledge of words met in content modules such as literature, civilization, linguistics, etc. Yet again, they can use a combination of both to boost both recognition and recall of vocabulary items.

Vocabulary focused instruction in the content area has been neglected so far as teachers of various subjects themselves reported to the researcher. The findings of this study demonstrated that, conceivably, it is high time to reconsider this fact and start making

vocabulary focused instruction a regular practice in every language classroom because learning vocabulary is the most urgent need for the language learner.

6.2.2 A Separate Vocabulary Class

Conversation with colleagues revealed that introducing new vocabulary words is done mainly via providing definitions and synonyms or allowing for dictionary use; very little careful study of vocabulary is done in the classroom. From here comes what seems to be the major pedagogical implication of this study; it concerns the integration of a module for ‘vocabulary instruction’ in the curriculum. It is suggested to devise a separate module for teaching vocabulary in the Department of English, a module standing on its own with particular scheduled sessions and teachers, especially to freshmen who are in need to build up a robust vocabulary to facilitate for them the task of studying the four language macro skills of listening, speaking, reading, and writing.

It is always worth reminding that vocabulary is the backbone of the language and that it has become common knowledge that learning a language is all about learning its words. Academic as well as general and specialist vocabulary can be thought through the methods described herein or via any other medium. Already published lists such as Academic Word List and General Service List can be taught. Perhaps, of more interest is to compile a list for each subject matter, taught in the Department, including key concepts and most frequently used words, then to draw up another list of words common between all modules to be taught at first place.

By way of example, Table 6.1 is compiled; it shows two modules, written expression and social and human sciences, and the lectures freshmen have in these subjects in semester

two (S₂). For each lesson, a list of five frequently used words is put together. The lists are set up online at http://www.writewords.org.uk/word_count.asp which is a word frequency counter allowing for computing the frequency usage of each word in a text. The user has only to copy his text and paste it in a box and click ‘submit’ to get a list comprising every word used in the text and next to it the number of times it appears in the text.

Table 6.1

Sample of Frequent Words in Written Expression and Social and Human Sciences Modules

SUBJECT	TITLE OF THE LECTURE	WORD	FREQUENCY AND FORMS
Written Expression	1. Common Mistakes to Avoid (run-ons, fragments, parallelism, wordiness)	- parallel	29 (17 parallel, 12 parallelism)
		- skill(s)	6
		- pitch	6 (4 pitched, 1 pitch, 1 pitcher)
Written Expression	2. The Narrative Paragraph	- schedule	5 (3 schedule, 2 scheduled)
		- expect	5 (5expected)
		- experience	15
Written Expression	3. The Descriptive Paragraph	- state	12 (9 statement(s), 3 state(s))
		- sensory	9
		- supporting	7 (5 supporting, 2 support)
Written Expression	3. The Descriptive Paragraph	- background	5
		- spatial	11
		- include	11 (10 include(s), 1 including)
Social and Human Sciences	1. Overview on the Humanities and Arts	- character	8 (6 character, 2 characteristics)
		- quality	6 (4 qualities, 2 quality)
		- variety	6 (5 variety, 1 various)
Social and Human Sciences	1. Overview on the Humanities and Arts	- humanities	33
		- creative	7 (3 creative, 1 creation, 1 creativity, 2 created)
		- craft	5 (3 craft, 2 craftsman)
Social and Human Sciences	1. Overview on the Humanities and Arts	- concept	3
		- appreciation	3
		- knowledge	16 (12 knowledge, 4 know)

	2. Introduction to Philosophy	<ul style="list-style-type: none"> - meta - value - theory - critical 	<p>11 (7 metaphysics, 4 meta-ethics)</p> <p>7 (4 value, 3 values)</p> <p>6</p> <p>5</p>
	3. Introduction to Religion	<ul style="list-style-type: none"> - belief - approach - lifestyle - karma - existential 	<p>34 (19 belief(s), 15 believe)</p> <p>7 (6 approach, 1 approaches)</p> <p>7</p> <p>4</p> <p>4</p>
	4. Introduction to General Ethics	<ul style="list-style-type: none"> - ethics - moral - reasoning - argument - rational 	<p>37 (24 ethics, 9 ethical, 4 ethicists)</p> <p>28 (22 moral(s), 6 morality)</p> <p>16 (9 reasoning, 7 reasons)</p> <p>16</p> <p>11 (7 rational, 4 rationalization)</p>
	5. Language and Communication	<ul style="list-style-type: none"> - linguistic - variation - contemporary - common - features 	<p>19 (12 linguistic, 5 linguist(s), 2 linguistics)</p> <p>12 (4 variation, 1 variable, 5 variant(s), 2 varied)</p> <p>5</p> <p>5</p> <p>4</p>
	6. Music and Dance	<ul style="list-style-type: none"> - perform - express - medium - bass - entertainment 	<p>11 (8 perform, 3 performance)</p> <p>9 (8 express(ion), 1 expressive)</p> <p>7 (6 medium, 1 mediums)</p> <p>5</p> <p>3</p>
	7. Literature	<ul style="list-style-type: none"> - character - fiction - major - prose - refer 	<p>13 (6 character, 7 characters)</p> <p>9 (8 fiction, 1 fictional)</p> <p>9</p> <p>9</p> <p>4</p>
	8. Theatre and Cinema	<ul style="list-style-type: none"> - audience - award - ritual - plot 	<p>14</p> <p>6</p> <p>5 (3 rituals, 2 ritual)</p> <p>5</p>

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Before embarking on a lecture, teachers can open it with some vocabulary focused instruction on the common words students are going to meet again and again throughout the lesson. This process is twofold benefit. It is likely to facilitate comprehension of content teachers intend to convey at the same repeated exposure will, in all probability, lead to retention and better recall of words later. A lesson plan can be developed and followed to achieve these learning objectives. An example of such lesson plan is found on the next page.

This lesson plan can be used by teachers of different subjects, and activities can be adapted for every subject and for students' needs and interests. The overall learning objective is stated first. Then for each task, a specific objective is defined, a set of exercise types is suggested to fulfil this objective, and a number of issues that can be raised while dealing with the task are proposed. These points help deepen students learning of the words and quicken their retention.

Such a course allows for scrutinized study of words. Not only core meaning will be examined, in these sessions, there will be room for studying every aspect of a word: core and shades of meaning a word has; forms it can take, other words it associates with and contexts into which it fits. In brief, it will be possible to put into action Nation's integrated vision of vocabulary learning (2001). In this way, students will be enabled to express what they think and how they feel more accurately and efficiently.

LESSON PLAN

Teacher :

Level:

Subject :

Topic :

Objective(s): By the end of the lesson, learners are expected to be able to use the set of the instructed words receptively and/or productively

Task One: To introduce learners to the set of the words and their meanings (receptive learning).

- Matching items (words and definitions, synonyms, pictures, labels ,etc)
- Dictionary use
- Glossing (text with glossary of target words)

Issues for discussion: - word pronunciation,
- spelling,
- cognates,
- homophones and homographs if any

Task Two: Confirmation and consolidation of receptive use.

- Banked gap filling
- Matching halves of sentences
- Guessing from context (both meaning and target word provided)

Issues for discussion: The same as for task one above.

Task Three: receptive recall of target words or their meanings (reception and production at work)

- MCQ
- Dictation-translation (dictation in L1 and translation in L2)
- Guessing from context (word or meaning provided)
- Odd one out

Issues for discussion: - contexts or instances of word use
- grammar patterns

Task four: Guided productive use of target words.

- Paraphrasing
- Cloze passage/gap fills
- Reordering words into sentences
- Words that go together
- Information transfer (e.g., from a picture, table, or graph to an oral or written description)

Issues for discussion: - associations
- collocations

Task Five: Free productive use of target words.

- Sentence writing
- Dialogue completion
- Paragraph/essay writing
- Creative writing (role play, poem, short story, etc)

Issues for discussion: Any of the issues referred to so far.

6.2.3 Guidelines for Implementing SMS-based Learning

It is worth mentioning that though delivery of vocabulary via SMS platform did not yield better results than word-focused activities solved by pen and paper, SMS participants' progress from pre to post-test still remains noticeable. To make it more considerable some guiding principles can be followed by teachers when designing and applying SMS-based teaching, and by students themselves when taking part in SMS-based learning.

6.2.3.1 Awareness Raising

Feedback from students showed that they were reluctant to read the SMS because they were too frequent which can be a sign of lack of awareness why there was repeated sending of the same message. It should be acknowledged that awareness raising to the importance of repetitions and their timing was not sufficient. Just one time, at the outset of the study, the students were informed that the time of sending any SMS is carefully chosen following research on memory and learning vocabulary effectively and thus they had to read it at the time of reception. Perhaps, regular reminding of this importance would have been necessary and beneficial, it might have led to more commitment on the part of students in reading the messages, and the results might have been different from the ones at hand.

6.2.3.2 Number of Repetitions

“There was a large number of SMS” was the recurrent complaint from students. The 25 SMS the students received in total during 13 days seemed to be too many for students. In fact, precious few have read each SMS 5 times or more, let alone reading them as soon as they received them which is vital for memorization to take place as proposed in the forgetting

curve used in this study. This implies this frequency of sending messages should be rethought; fewer messages should be sent to students to warrant they read them all, hopefully.

6.2.3.3 Length of the SMS

The length of the SMS and the number of words each comprises were also criticised by a number of participants, so they should be rethought. Several students preferred shorter messages with fewer words; three, two or even just one; probably, sent to them in the “Word of the Day” fashion. This can be a further reason why SMS reading frequency was not high, implying that SMS-based method for teaching vocabulary may be successful more with less messages containing less words.

6.2.3.4 Need for Follow-up

SMS participants’ post-test scores ranged between 2 and 20 with considerable variation in performance between subjects. This variance may result from their varying usage patterns or reading frequencies. Left to self-learning, students were irregular in their readings of the short messages; there were increases and decreases as reported in the questionnaire. It can be deduced that the more a student reads the SMS, the more words s/he learns and the better grade s/he achieves. Learning in the classroom is different; all students receive the same amount of information and study the words for the same amount of time. They are in the obligation to attend to the vocabulary items instructed and practiced while SMS participants tend to read the messages when they were free or willing to.

This may hint that teachers cannot rely totally on students’ self-study requested by such learner-centered mobile activity. Some student tracking is necessary. For follow up, teachers can occasionally ask questions about the targeted words and get students involved in

discussions of their meanings and uses. They can also administer mini tests on regular basis as part of their evaluation process.

6.2.3.5 SMS and Productive Vocabulary Knowledge

One outcome, unexpected by the researcher, of SMS-based learning is its potential to enhance students' productive knowledge of target words. Vocabulary production and reception have improved in more or less parallel ways. Therefore, this method should not be totally neglected when teachers intend to teach students the productive dimension of vocabulary. In fact, previous research provides an explanation to this fact. Waring (1997) found that receptive learning of word lists, analogous to learning from SMS in this study, led to a small amount of productive learning while Schneider, Healy and Bourne (2002) stated that this amount was substantial. This provides a justification why the SMS participants' performance improved in the productive post-test.

6.2.3.6 SMS as a Supplementary Activity

The slight superior improvement in SMS+Activities participants' mean scores compared to those of their counterparts in the activities group (15.35 versus 13.65 in the receptive test and 14.7 versus 13.85 in the productive test) may be attributed to the use of the short messages in combination with activities; the SMS provide extra readings of the words which may result in greater recognition and retention. This gives indication that SMS should be utilized as complement to class work; after dealing with tasks devoted to careful study of words, text messages come to strengthen learning and memorization of these words. Thus, if SMS is not used on its own in vocabulary instruction, it may be used as a supplementary activity supportive of more focused learning of vocabulary.

6.2.3.7 Students' Attitudes towards SMS-based Learning

Although students have extremely positive attitudes toward push messages as a means for learning vocabulary, they reported low frequency of reading them. This mismatch between attitude and action may be the explanation why students in the SMS group had the smallest gains in vocabulary learning. Hence, prior to the implementation of such mobile learning, students should be prepared to the idea of using their mobile phones in a formal teaching and learning context where this m-learning has to be taken as seriously as classroom instruction. Once more, some work on raising learners' awareness to the effectiveness of this method is indispensable prior to and during instruction.

6.2.4 Guidelines for Using Word-focused Activities

Like for short messages, the application of word-focused activities can be improved if performed following some guidelines, which are discussed below.

6.2.4.1 Tapping into Students' Positive Attitudes towards Word-Focused Activities

Students accorded a privileged status to word-focused activities; the majority stated that they found them very helpful for both learning and memorizing new words, more than the SMS were, and they recommended them for future learning of more vocabulary items. Students in the SMS+Activities group selected to study vocabulary in the future via a combination of SMS and activities or activities alone, but not SMS alone which may suggest that learners do not have as much confidence in SMS as they have in activities; they may not yet conceive SMS as a new means of learning delivery despite the advantages they listed for them. This view is clearly put by a student who said "I prefer to learn by writing".

Plausibly, learners feel safer with the 'between the walls of the classroom' atmosphere for leaning. Due to their learning habits and styles, they prefer learning vocabulary in the

classroom with the teacher using pen and paper. Several referred to the importance of two aspects of conventional lessons: the teacher's explanations and the interaction with classmates in the process of answering the questions. These features are absent in the SMS-based learning experience they went through, for they had to apply self-directed study. In conclusion, teachers should not overlook instructing vocabulary by means of activities whatever content they teach.

In addition, learners' perception of task effectiveness has manifested itself in other ways. For instance, students did not find reading new vocabulary in SMS enough for them to acquire it, and they made it clear that they basically prefer to work with the words in order to be able to learn them. For this reason, they specifically put emphasis on the efficiency of some tasks for learning vocabulary. These are matching words and definitions, which enhance vocabulary reception, and paraphrasing and sentence/paragraph writing, which promote vocabulary production.

In summary, the current study showed that not only were word-focused activities effective but also highly valued by students. The main application of this in pedagogy is that word-focused activities are still usable and exploitable in vocabulary teaching for both their effectiveness and students' trust in this effectiveness.

6.2.4.2 Word-focused Activities and Types of Vocabulary Knowledge

To foster students' productive use of vocabulary, word-focused activities are not only effective but also highly valued by students, especially tasks where production is needed like in paraphrasing and sentence and paragraph writing. Actually, research proved that learning vocabulary words productively results in better productive knowledge (Waring, 1997; Mondria & Wiersma, 2004). Thus, when the learning objective is to enable students to

produce the language, via writing or speaking, teachers can opt for activities which encourage production and serve this purpose such as text composition and class discussions and debates.

The opposite is true; there is evidence that vocabulary receptive learning is likely to foster vocabulary receptive knowledge in students (Waring, 1997; Schneider, Healy & Bourne, 2002; Mondria & Wiersma, 2004). Therefore, if teachers aim at enhancing students' comprehension in reading and listening by increasing their vocabulary, they are required to use receptive learning tasks viz. matching items and banked gap fills.

6.2.4.3 Varying Word-focused Activities

In the literature on vocabulary recognition and production, exercises are praised for their positive effects. For example, gap filling usefulness is proved by Lu's findings in his study of 2013, matching words and definitions in Hashemzadeh's study (2012), MCQs in the work of Kargozari and Ghaemi (2011), sentence writing in the research by Laufer (2001) and composition in Coomber, Ramstad and Sheets's study of 1986 (See Chapter two). Varying vocabulary tasks is advised by authorities in the field, namely Nation (2001), Laufer (2005) and Laufer and Rozovski-Roitblat (2011). Participants in this study did mention that the activities they dealt with were varied, yet few of them notified that they were so within a single session only, but they were repetitive when taking all sessions together.

For the sake of consistency, it was not possible for the researcher to teach different word sets via different types of activities; if otherwise, it would be considered a noise variable. However, in ordinary circumstances, teachers should vary vocabulary tasks within as well as between sessions, especially that not all students agreed on the difficulty of the tasks. Several students requested easier tasks. It would be preferable to have activities of a wider range of difficulty levels in order to meet all students' needs and abilities.

Variation can also be applied to the number of words per activity, and of activities per session. Participants had opposing views with this regard. Some preferred to have fewer words with more processing of their different aspects in order to keep them in mind longer; others favored more and more words with focus on their meanings only for the sake of enlarging their vocabulary. Accordingly, more tasks with more words can be handled if learners are eager to solve them and process more information to learn and memorize the largest possible number of words. On the other side, fewer activities with fewer words should be addressed every session in case students are not able to cope with greater amounts of data.

6.2.5 Combination of SMS and Word-Focused Activities

In order to improve learners' vocabulary knowledge in terms of both comprehension and production abilities, it is important to combine learning vocabulary through word-focused activities and repeated exposure possible by means of push SMS. The latter can be compared to the conventional learning words from a list. Thornbury (2002) believes list learning to be a very efficient strategy for L2 learners to acquire vocabulary, but it has just been underestimated, so he suggests novel techniques for better exploitation of word lists in the classroom. By analogy, vocabulary SMS may be an additional such technique whereby novelty, ubiquity and fun are joined to vocabulary learning.

Indeed, the scores of the SMS+Activities group, by being higher than those of the SMS alone group and of the activities alone group, suggest that joining short messages to word-focused activities is appropriate and desirable for the best results in vocabulary reception and production learning. In other words, the combination method whereby repeated exposure hand in hand with deep processing of vocabulary words is prone to develop the two dimensions of vocabulary knowledge in students.

In fact, this can be explained by research findings. Studies by Griffin and Harley (1996), Waring (1997) and Mondria and Wiersma (2004) revealed that the way vocabulary is learned correlates with the learning outcome. To clarify, receptive knowledge increases when tasks addressing reception are used when teaching words to students, and productive knowledge is enhanced if practice exercises require production on the part of learners; hence, a combination of both lies behind improvement in both types of vocabulary knowledge.

6.3 Suggestions for Future Research

A number of questions remain unanswered and worth investigation. Some have to do with SMS-based learning and others with word-focused activities method for teaching vocabulary. Accordingly, some directions for future research have been outlined below.

The first issue relevant to SMS-based instruction requiring further research concerns which patterns of delivery are better for our students i.e. how many SMS should be sent per day and with which time intervals and with which number of words per SMS. The schedule followed in this study did not seem to fit students' preferences; they found the number of SMS excessive. So, will less frequent SMS at larger time lags lead to better results than those reached in this study? Only future research can tell.

Another question that can be answered through subsequent enquiry is the following: will other delivery platforms rather than SMS yield better outcomes? In fact, MMS, sound, pictures or a combination of any of them can be used instead of short messages, particularly to explain notions difficult to explain through words only. Sound clips can be sent to model pronunciation of unfamiliar words, and short videos summarizing key points of a lecture to facilitate comprehension and retention. These formats tend to grab students' attention and raise their motivation more than mere SMS texts do.

In this study, not all students ignored all words, either receptively or productively, yet they all received the same words in the same time. Personalized SMS in terms of the knowledge type needed and reception time favoured by learners themselves may yield better results. For instance, following his needs, a student can study an increased number of unfamiliar words to learn as much vocabulary as possible in an attempt to expand his breadth of knowledge. Or, fewer words can be studied deeply and lengthily to strengthen his depth of knowledge. Moreover, the student receives SMS with words new to him at points of time convenient to him with the frequency he decides upon. Thus, a good research question, worth of investigation in the future would be: to what extent will personalization of SMS-based learning assist individual learners in fostering their breadth and depth of vocabulary knowledge?

Experimentation with activities other than the ones utilized in this study is advisable, especially easier ones such as ‘yes or no’ and ‘true or false’ questions, in response to the request of students who claimed that some of the tasks were difficult to handle. Conversely, intervention can be limited to cognitively high demanding activities, namely sentence and paragraph composition, particularly that some students were aware enough to notice that these are more effective for learning and memorizing vocabulary. Furthermore, many tasks are used at once in the present intervention; however, another study can test one or two specific types of activities to teach new words and see what differences or similarities would exist between its findings and those of this study.

Interest in this study was in incidental vocabulary learning whereby students are meant to learn vocabulary through exposure to target words either in exercises, short messages or both. Incidentalness here is achieved via students’ ignorance of upcoming tests. Perhaps, informing participants about the tests would lead to different outcomes. Thus, researchers are invited to experiment with intentional vocabulary learning in the future by means of the same

methods used here. The results may be better because students usually under intentional conditions might show more care and willingness to get high scores in the tests.

Attitudinal findings do not correlate with academic achievement as far as SMS are concerned. Therefore, further qualitative studies need to be conducted so as to explore more learners' attitudes towards the use of this delivery platform at university level. More data collection is required to find out whether or not students are ready to expand their vision of mobile phones from communication and entertainment devices to teaching and learning tools.

6.4 Limitations of the Study

As any piece of research, the present study has its limitations. Some of the latter are general since they relate to the study in its entirety, and others are specific to one method or the other. In fact, most limitations relate to the implementation of short messages as a medium for vocabulary instruction.

The sample size is a major limitation in this study in two ways. First, the number of the participants under each condition should be increased for generalization of the results across the whole population to be reached convincingly. The sample size is a limitation not only for the experiment but also for the questionnaires findings. It may be acceptable to pull its results to the entire population when the questions are common between two groups (SMS+Activities and activities groups or SMS+Activities and SMS groups). However, when the questions concern only one group, it becomes incautious to generalize the results.

The researcher considers it a serious limitation that participants in the SMS and SMS+Activities did not show the commitment as they should to reading the SMS as soon as they receive them. This fact harms a crucial aspect of the study: the implementation of the findings on memory work and remembering summed up in the forgetting curve. The SMS

were delivered at points of time where forgetting is most probable to happen, and to prevent it from occurring, students should have read them as scheduled.

This problem is compounded by participants' reluctance to reread each new SMS including a new set of words five times as required. Not only did students delay the time of reading but they also skipped a number of necessary re-readings of the messages. On the whole, each message was read three times only; very few were read four or five times.

Since this was the case, caution is necessary in interpreting and generalizing the results pertinent to the use of the SMS-based method for instructing vocabulary. Seeing the large number of studies reviewed in the course of this research which assert the superiority of SMS over other methods for successful vocabulary learning, the researcher believes that SMS utilization would have yielded better results, even better than word-focused activities, if participants had followed the requirements of timing and repetition of readings.

Conclusion

The most important pedagogical implications reached at the end of this study are many. First, teaching vocabulary should be the practice in the language classroom via form-focused instruction, for shallow instruction is not enough for vocabulary learning to take place. Several guiding principles may make this instruction successful, whether when activities, SMS, or their combination is used.

Furthermore, the limitations experienced through the conduct of the current study are outlined in this chapter. Students' lack of enthusiasm to read the SMS sent to them immediately when they received them, the number of times they received them were the two major constraints which may interfere with the findings pertinent to the use of SMS-based vocabulary instruction, especially that a bulk of previous studies laid emphasis on the efficacy

of this method in extending students' vocabulary repertoires, particularly in the EFL environments.

In addition, in this chapter, we put forward some suggestions for further enquiries and formulate some more research questions worth answering in future studies. For instance, it is proposed to investigate other exercises types and different SMS sending patterns and frequencies to make up for the shortcomings reported in this study.

GENERAL CONCLUSION

General Conclusion

Vocabulary is the backbone of a language, and learning vocabulary may be the most salient task for learners of a new language, and also the most complicated one. Indeed, learning a word entails not only knowing what it means and how it sounds and looks but also knowing how it is used and can be fitted in a myriad of language instances of use, some conventional and others innovational. The present study attempts to cast light on some ways to help learners with this uneasy task. Interest in this research topic stems from an observation that vocabulary teaching is not undertaken in the language classroom with the necessary care; new words are explained verbally transiently and the lecture goes on dealing with 'more' important issues. Investigating old and new teaching methodologies looking for those which best assist learners in boosting both their receptive and productive vocabulary knowledge ignited this study.

The review of literature was concerned with the variables studied. The first chapter covered vocabulary and related issues, namely definitions, importance, learning and teaching. The second chapter outlined word- focused activities, starting with placing them within the historical background they belong to, moving to enumerating and describing them, and ending with providing empirical evidence for their effectiveness in teaching vocabulary to Language learners. The third chapter explored the use of short messages in vocabulary instruction; how it started, how it spread and what outcomes it yielded so far.

In order to examine the effects of these methods (word-focused activities, text messaging (SMS), and their combination) on students' vocabulary knowledge, a pre-test/post-test experiment was carried out at Frères Mentouri University, Constantine, during the academic year 2019-2020. A sample of sixty first-year students was randomly selected to participate in this research. They were divided into three groups of twenty students, and each

group was assigned to a given condition. A group received vocabulary instruction by means of word-focused activities, another through text messaging (SMS), and a third via their combination. In addition, a retrospective questionnaire was administered to each group for an evaluation of the vocabulary teaching method under consideration.

The findings of the intervention confirmed that the different instruction types enhanced learners' knowledge of new vocabulary words, receptively as well as productively. In terms of trainees' scores, a combination of activities and short messages led to the most considerable improvement in their achievement in vocabulary reception and production, followed by word-focused activities, then short messages with the lowest degree of progress. In terms of statistical tests, the blended method had a positive effect on vocabulary reception and production similar to that of the activities alone, and more considerable than that of the SMS alone. Word-focused activities equaled short messages in enhancing receptive knowledge in students but exceeded them in productive knowledge. The SMS effect on receptive knowledge was as significant as that of the activities, but it was minimal on productive knowledge.

It follows that the hypotheses checked in this study were confirmed (1) different instructions produce different outcomes, (2) receptive knowledge is enhanced through SMS, (3) productive knowledge is improved through activities, and (4) both reception and production are increased through a combination of SMS and activities. Moreover, participants' responses to the questionnaires uncovered positive attitudes towards the use of either method to facilitate vocabulary learning for them. Although, students showed highly favorable attitudes toward short messages as a means to learn new words, they were less enthusiastic reading repeatedly received messages. Also, they preferred activities or activities plus messages, for future vocabulary instruction, but not messages alone. This may suggest

that students do not yet perceive short messages as an instructional method; they still value activities much more.

Ultimately, some pedagogical inferences are made. The most important one is that, regardless of the content being taught, the implementation of vocabulary focused instruction is indispensable in the language classroom. It may take the form of word-oriented activities, short messages, their combination, or any other possible way to provide students with support in the demanding task of vocabulary learning.

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APPENDICES

APPENDIX A: THE PRE-TESTS

Question: Complete the unfinished words. An example is done for you.

She was wearing a green **dress**.

1. He will never **ack**..... his mistake; he is much too proud.
2. There is a beautiful little park **adj**..... to the house that we are going to buy.
3. He has written a fully **compr**..... guide to Rome.
4. Each of us **gen**..... about 3.5 pounds of rubbish a day, most of which is paper.
5. A little bonus will give the employees an **inc**..... to work harder.
6. She has great **pot**..... as an artist.
7. The supervisor has announced that our first staff meeting will last for two hours, and **sub**..... meetings for only one hour.
8. You have to look at every **asp**of the problem to really understand why it is happening.
9. Penicillin was an extremely **sig**.....medical discovery.
10. Informal language is not **appr**..... when you write academic papers.
11. The directors of the company refused to **und**..... such a dangerous project.
12. The cheetah can run at speeds of over 80 km/h, but can only **sus**..... that speed for a very short time.
13. The **cont**..... which oncologists, or cancer doctors, still face concerns to tell or not to tell the patients that they have cancer.
14. Motivation is one of the principal **cri**..... for success in learning a second language.
15. The business is not as good as people **per**..... it to be.
16. The students were well-prepared for the exam; **hen**....., they obtained high scores.
17. She could **adj**..... quickly to life in Korea after having lived in the U.S.A for twenty years.
18. Clinton strongly **adv**..... of a variety of educational improvements.
19. A Hungarian proverb observes that continued efforts are needed to **ach**..... good results.
20. There is no **pros**..... of Mr Smith's being elected as Congressman.
21. Everybody is **awa**..... of the dangers of smoking.
22. We were **som**..... tired after our long walk.
23. Please **ass**..... her in moving the desk because it is very heavy.
24. I am not sure of the time; my watch does not seem to be very **acc**.....
25. Italics or capitals are sometimes used to **emp**..... specific words and expressions in a piece of writing.
26. He claimed he had no **pri**..... knowledge of the protest.
27. The **con**..... of individual liberty is protected by the law.

28. Stress is often a **fac**..... in the development of long-term sickness.
29. Climate and weather **aff**..... every aspect of our lives.
30. In business, the practical **app**..... to problems is often more successful than an idealistic one.
31. There was **ade**..... rain and snow last winter. .
32. Would you like to **cont**..... to our collection.
33. The **ult**..... decisions will be taken at governmental, even presidential, level.

Receptive Vocabulary Knowledge Pre-test

Question: Choose the right word to go with each meaning. Write the number of that word next to its meaning.

Here is an example.

- | | |
|------------|-------------------------------------|
| 1 business | |
| 2 clock | <u>6</u> part of a house |
| 3 horse | <u>3</u> animal with four legs |
| 4 pencil | <u>4</u> something used for writing |
| 5 shoe | |
| 6 wall | |

- | | |
|-----------------|------------------------------------|
| 1 adjacent | |
| 2 arbitrary | _____ all-including, complete |
| 3 ultimate | _____ final and most important one |
| 4 intrinsic | _____ bordering or next to |
| 5 comprehensive | |
| 6 inevitable | |

- | | |
|------------|---|
| 1 accurate | |
| 2 apparent | |
| 3 diverse | _____ correct and true in every detail, precise |
| 4 overall | _____ realizing that something is true, exists, or is happening |
| 5 prior | _____ existing before something else |
| 6 aware | |

- | | |
|---------------|---|
| 1 available | |
| 2 significant | |
| 3 obvious | _____ important |
| 4 adequate | _____ correct or right for a particular time, situation, or purpose |
| 5 optional | _____ enough in quantity, or good enough in quality |
| 6 appropriate | |

- | | |
|-------------|---|
| 1 issue | |
| 2 structure | |
| 3 concept | _____ one of several things that influence or cause a situation |
| 4 factor | _____ a method for dealing with a problem or thinking about something |
| 5 approach | _____ an idea of how something is |
| 6 context | |

- | | |
|-------------|--|
| 1 impact | |
| 2 undertake | |
| 3 dominate | _____ say or show that you think something is especially important |

- 4 emphasise _____ think about something or someone in a particular way
- 5 categorize _____ accept to be responsible for a piece of work and start to do it
- 6 perceive

- 1 potential _____ a natural ability or quality that could develop to make a person or thing very good
- 2 aspect _____ a part or a feature of something that is important, interesting, or typical
- 3 relevance _____ reasons and principles on which a decision, a plan, or a judgment etc. is based
- 4 data
- 5 survey
- 6 criteria

- 1 contribute _____ help someone do something
- 2 coordinate _____ give money, help, or ideas, etc to something that others are also involved in
- 3ensure _____ do something that produce change in a situation, influence
- 4 maintain
- 5 assist
- 6affect

- 1 sustain _____ publicly support a particular way of doing something
- 2 acknowledge _____ admit that something is true or exists
- 3 accommodate _____ provide with what is needed to live or exist for longer time
- 4 advocate
- 5 undergo
- 6 accede

- 1 adjust _____ gradually get used to a new situation by making small changes to the way you do things
- 2 achieve _____ produce or cause something to exist
- 3 generate _____ successfully complete something or get a good result, especially by working hard
- 4 implement
- 5 substitute
- 6 enhance

- 1 definitely _____ used to show that what you are about to say is a result of what you have just said
- 2 whereas

3 somewhat _____ slightly, fairly

4 subsequently _____ used to say that something comes after something else

5 hence

6 likewise

1 incentive

2 contradiction _____ a serious argument about something that many people disagree about or disapprove of

3 perspective _____ the possibility that something will happen

4 controversy _____ the capability to have good relationships with someone who has similar ideas, interests, etc.

5 prospect

6 predominance

APPENDIX B: TREATMENT ACTIVITIES

Vocabulary Activities (Set 1)

*Task 1: Read each sentence in column A, then match the word in **bold** with its corresponding meaning in column B.*

A	B
1. Is this list comprehensive or are there some names missing?	a. bordering or next to
2. The fire spread to two adjacent buildings before firefighters were able to contain it.	b. later on or after something else has happened
3. Sophie did quite poorly on her first two math tests, but she subsequently averaged between 90 and 100% in all exams.	c. to some extent or degree, a little
4. The student somewhat understood the math problem but still needed help from her teacher.	d. including all the necessary items and details, complete

1	2	3	4

Task 2: From the list in the box, use four words to complete the sentences below. One word can be used once only.

previous	overall	somewhat
comprehensive	extremely	adjacent
		subsequently

1. Norway's economic fortunes were boosted in the late 1960s by the discovery of oil and gas in..... waters.
2. We offer you a training in all aspects of the business.
3. Srully D. Blotnick once observed that what looks like a loss may be the very event which is..... responsible for helping to produce the major achievements of your life
4. Sue likes the beach, but she still prefers to spend her holidays in the mountains.

Task 3: For each sentence, choose the right option (a, b, c, or d) which has the closest meaning to the underlined word(s).

1. The state government gave a **thorough and detailed** explanation of its plans for the development of electronic industry. a. logical b. precise c. comprehensive d. lengthy
2. Listening to the speech through an interpreter lessened its impact **slightly**.

- a. a lot b. somewhat c. considerably d. very much

3. You can put your printer **close** to your computer on the table here.

- a. adjacent b. behind c. on top of d. in front

4. He took a degree in chemistry at New College, Oxford, and **then** he gained a Doctorate in inorganic chemistry.

- a. consequently b. that's why c. after d. subsequently

Task 4: Using your own words, complete each sentence below making its meaning clearer.

1. He was **somewhat** shocked by the news that the police intended to arrest him. That is to say, he felt.....

.....
.....

2. You can wait in the **adjacent** room. This means that the two rooms

.....
.....

3. He participated in the bank robbery and acknowledged that he had committed other crimes **subsequently**. Therefore, the bank robbery happened.....

.....
.....
.....

4. She has a **comprehensive** understanding of the subject. She knows.....

.....
.....

Task 5: Use the following words, or any form of them, in sentences of your own:

- adjacent somewhat comprehensive subsequently

adjacent:.....
.....
.....
.....

somewhat:.....
.....
.....
.....

comprehensive:.....
.....
.....
.....

subsequently:.....
.....
.....
.....

Vocabulary Activities (Set 2)

Activity 1: Reading each sentence in column A, then match the word in **bold** with its corresponding meaning in column B.

A	B
1. Jane Addams once remarked that the child becomes largely what he is taught; hence , we must watch what we teach, and how we live.	a. to change the way one behaves or thinks in order to suit a new situation
2. The media reflect nearly every aspect of society, though these reflections are not always precise.	b. noticeable, important
3. When we moved to a new neighborhood, it took the children a long time to adjust .	c. for this reason, therefore
4. After having a heart attack, he made some significant changes in his life in order to improve his health.	d. part of, feature

1.	2.	3.	4.

Activity 2: From the list in the box, use four words to complete the sentences below. One word can be used once only.

aspects	significant	however	hence	schools
	adjust			

1. A Danish proverb notes that a man has two ears and one mouth; _____, he should listen twice as much as he talks.
2. While it can be hard to stay in a foreign country, people who can easily _____ tend to cope better.
3. We should be fully aware of the _____ role that social media play in shaping our ideas.
4. Voltaire once stated that the discovery of what is true and the practice of what is good are the two most important _____ of philosophy.

Activity 3: For each sentence, choose the right option (a, b, c, or d) which has the closest meaning to the underlined word(s).

1. You need at least four to six months in a country in order to have a **major** opportunity to improve your skills in a second language.
 - a. significant
 - b. limited
 - c. exciting
 - d. economic

2. How and what you choose to eat affects many of your health **characteristics**.
 a. benefits b. problems c. aspects d. needs
3. The reasonable man **gradually gets himself used** to the world. The unreasonable one persists in trying to adapt the world to himself.
 a. opens b. contributes c. looks d. adjusts
4. Napoleon once stated that nothing is more difficult, and **therefore** more precious, than to be able to decide.
 a. since b. while c. though d. hence

Activity 4: Using your own words, complete each sentence below expressing it differently or making its meaning clearer.

1. Rene Descartes stated, I think, **hence** I am. For Ren-Descartes, being or existing
-
-
2. We offer you a complete training in all **aspects** of the business. You will learn.....
-
-
3. When I left my home country and came to North America, it took me a long time to **adjust** to life there. Because lifestyles
-
-
-
4. The corporation made a **significant** profit in the last quarter of the year. That is to say, it gained.....
-
-

Activity 5: Use the following words, or any form of them, in a paragraph about the changes you as a freshmen experienced when you moved to university:

significant – aspect – hence – adjust

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

Vocabulary Activities (Set 3)

Activity 1: Read each sentence in column A, then match the word in **bold** with its corresponding meaning in column B.

A	B
1. Children who are continually criticized by their parents will begin to perceive themselves as bad.	a. publicly support a particular way of doing something
2. Controversy is over whether chemicals should be used on fruit and vegetables or not.	b. a heated conversation between two parties with different opinions
3. Over 500 varieties of fish are able to generate considerable amounts of electricity.	c. think about
4. Many experts advocate rewarding your child for good behaviour.	d. produce, cause to exist

1.	2.	3.	4.

Activity 2: From the list in the box, use four words to complete the sentences below. One word can be used once only.

advocate		purchase	
	controversy		generate
perceive		politician	

1. Rock singer Bono has been a passionate of Third World debt relief in recent years.
2. In class, we often discuss topics which cause because these topics always get people thinking.
3. It is hoped that this program will a lot of new jobs in the region.
4. The packaging affects how we a product.

Activity 3: Use one word which can best replace the language shown in **bold** without changing the meaning of the sentence.

1. Martin Luther King, Jr. once said that the ultimate measure of a man is not where he stands in moments of comfort, but where he stands at times of challenge and **disagreement**.
 a. weakness b. debate c. unity d. controversy
2. Mao Zedong believes that we, human beings, **support** the abolition of war, and that we do not want war.

- a. plan b. advocate c. encourage d. acknowledge

3. Anthony Robbins once noted that the meeting of preparation with opportunity **gives birth to** the offspring that we call 'luck'.

- a. generates b. helps c. limits d. creates

4. The most important process in socialization is learning to **look at** one's acts from the viewpoint of other people.

- a. understand b. trust c. perceive d. like

Activity 4: Using your own words, complete each sentence below expressing it differently or making its meaning clearer.

1. Charles Darwin's book "The Origin of Species by Means of Natural Selection" generated a fierce **controversy** when it was first published in November of 1859. Whereas some people.....

2. Unfortunately, many second language students seem to **perceive** language learning as something that can be achieved in a few months. On the contrary to what many second language students

3. The plans for a party have **generated** a lot of enthusiasm among the children. The enthusiasm that the party.....

4. Personally speaking, I do not **advocate** smoking under any circumstances. I am

Activity 5: Use the following words, or any form of them, in a paragraph about the controversy over social networks:

perceive

generatecontroversy

advocate

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Vocabulary Activities (Set 4)

Activity 1: Read each sentence in column A, then match the word in **bold** with its corresponding meaning in column B.

A	B
1. They gave their son \$10 for every 'A' on his report card as an incentive .	a. abilities and qualities that exist and can be developed
2. We do not have enough money to sustain our advertising campaign for long.	b. make continue for a longer period of time
3. My son has a lot of potential , but he does not work very hard.	c. enough in quantity (or good enough in quality) for a given purpose
4. The project has been canceled due to a lack of adequate funds.	d. something that encourages someone to work harder

1	2	3	4

Activity 2: From the list in the box, use four words to complete the sentences below. One word can be used once only.

sustain	achievement	adequate
result	incentive	potential

- A little bonus will give the employees a good _____ to work harder.
- Karl Marx believed that work is a central aspect of people's identities and allows them to develop to their _____ fullest
- We cannot _____ life for long periods without water.
- She had not received an _____ preparation for the driving test; as a result, she failed it.

Activity 3: For each sentence, choose the right option (a, b, c, or d) which has the closest meaning as the underlined word.

- The great boxer, Floyd Mayweather Jr., said: "My grandmother saw my [**capacity for success**]. When I was young, I told her, 'I think I should get a job.' She said, 'No, just keep boxing.'
 a. strength b. potential c. inability d. imagination
- Raise college admissions standards so that young people have a strong **encouragement** to achieve more in high school.
 a. incentive b. gift c. hindrance d. payment

3. When she lost her job, they could no longer **continue** their expensive lifestyle.
a. create b. change c. sustain d. start

4. Getting an **ample** amount of sleep each night is one of the easiest and most effective ways to improve your daily life.
a. much -needed b. deep c. light d. **adequate**

Activity 4: Using your own words, complete each sentence below making its meaning clearer.

1. She could **sustain** everyone's interest until the end of her speech. Her speech was
so.....
.....that.....
.....

2. **Incentives** must be offered to pupils in order
to

3. When a person makes full use of his **potential**, he uses
.....
.....
.....

4. Goldfish lose their color if they are kept in a weak light or are placed in running water; they only remain gold if kept in a bowl with **adequate** light. In order not to change colour, goldfish

Activity 5: Use the following words, or any form of them, in sentences of your own.

adequate incentive sustain potential

adequate:.....
.....
.....
.....

incentive:.....
.....
.....
.....

sustain:.....
.....
.....
.....

potential:.....
.....
.....
.....

Vocabulary Activities (Set 5)

Activity 1: Read each sentence in column A, then match the word in **bold** with its corresponding meaning in column B.

A	B
1. My father is very organized and has a methodical approach for doing every task.	a. a way of dealing with or thinking about a situation or a problem
2. Since you did not type in the accurate pin number, you cannot withdraw money from the automated teller machine.	b. standards or levels of quality that are used to judge something or make a decision
3. Oral exam criteria include fluency, vocabulary, grammar range, and pronunciation.	c. give special importance to, focus on
4. During the lecture, the teacher tried to emphasise the importance of vocabulary in language learning.	d. exact, without mistakes

1	2	3	4

Task 2: From the list in the box, use four words to complete the sentences below. One word can be used once only.

accuracy	advice	criterion
feature	approach	emphasis

- Two main for judging the presentation is the student's use of technology in the assignment.
- Although he is known for his shooting, the gunman missed his last two shots.
- Stephen Covey, the American educator, stated that the practical to a mistake you did is to acknowledge it first, correct it next, and learn from it last.
- When writing a paper, authors sometimes put words in bold or italics to put more on them, so the reader will know they are important.

Task 3: For each sentence, choose the right option (a, b, c, or d) which has the closest meaning to the underlined word(s).

- When hiring, we will be looking at different **decisive factors**, but most importantly education and experience.
 - sides
 - skills
 - ideas
 - criteria
- DNA testing is an extremely **precise** means of confirming a person's identity.
 - accurate
 - necessary
 - preferred
 - new

3. Graham Kennedy once said: “ I [**stress**] the following: don’t, whatever happens, be anyone but yourself. Don’t act anyone else-that would be fatal”

- a. hope b. emphasise c. advise d. declare

4. Bloomfield's **theory about** linguistics was based on observation of the language.

- a. accurate b. necessary c. approach to d. new

Task 4: Using your own words, complete each sentence below making its meaning clearer.

1. In business, the pragmatic **approach** to problems is often more successful than an idealistic one. To be effective in business,

you

.....

.....

2. Always **emphasise** the positive. That

is,

.....

.....

3. The Japanese philosopher Daisaku Ikeda said: “A healthy vision of the future is not possible without an **accurate** knowledge of the past”. We must know

what

.....

.....

4. To qualify for a scholarship, students must meet certain **criteria**. That is to say, they must have

.....

.....

Task 6: Use the following words, or any form of them, in sentences of your own:

- approach accurate criteria emphasize

approach:.....

.....

.....

.....

accurate:.....
.....
.....
.....

criteria:.....
.....
.....
.....

emphasize:.....
.....
.....
.....

APPENDIX C: SCREENSHOTS OF THE SMS

Screenshots of SMS set 1

1

comprehensive (adj):
complete, including all the
necessary facts, items,
details, etc:
This is a comprehensive list
of their addresses.

adjacent (adj): next to,
bordering:
Our farm was adjacent to the
river.

somewhat (adv): slightly, a
little:
our work has progressed
only somewhat.

Subsequently (adv): later on:
The decision was
subsequently reversed
on appeal.

2

comprehensive (adj):
complete, full:
This is a comprehensive
guide to British hotels and
restaurants.

adjacent (adj): next to:
There is
sale of adjacent lands.

somewhat (adv): slightly, a
little:
This year's celebrations
should be somewhat larger
than last year's.

Subsequently (adv): later on:
The book was published in
2000, and subsequently
translated into 15 languages.

3

comprehensive (adj):
including everything that is
necessary:
His report was fully
comprehensive.

adjacent (adj): next to:
We stayed in adjacent
rooms.

somewhat (adv): slightly, a
little:
The price is somewhat
higher than I expected.

Subsequently (adv):
afterward:
New safety guidelines were
subsequently adopted.

4

comprehensive (adj):
complete, including
everything that is necessary:
Your car must have
comprehensive insurance.

adjacent (adj): next to:
The building is adjacent to
the library.

somewhat (adv): slightly, a
little:
She looked somewhat upset.

Subsequently (adv): later on:
Subsequently, he became
chairman of the party.

5

comprehensive (adj):
including all the necessary
facts, items, details, etc:
The study was
comprehensive.

adjacent (adj): next to:
The planes landed on
adjacent runways.

somewhat (adv): slightly, a
little:
Things have changed
somewhat since then.

Subsequently (adv): later on:
Wood can be glued very well
by wetting it with water
which is subsequently
frozen.

Screenshots of SMS Set 2

1

Hence (adv): for this reason, therefore:
The music was loud at the party. Hence, I could not hear what you were saying.

Significant (adj): important:
He won a significant amount of money.

Adjust (v): adapt, gradually become familiar with a new situation:
My parents had trouble adjusting to living in an apartment.

Aspect (n): a part, a feature:
A person's nationality is an important aspect of their identity.

3

Hence (adv): for this reason, thus:
People are dying, hence the need for urgent action.

Significant (adj): noticeable or important:
There are significant differences between the two groups of students.

Adjust (v): gradually become familiar with a new situation:
It takes only a few seconds for the eye to adjust to the darkness.

Aspect (n): a part, a feature:
They discussed several aspects of the traffic problem.

2

Hence (adv): for this reason, therefore:
The area was full of black smoke from factories; hence, it was named "the Black Country."

Significant (adj): noticeable or important:
This is a highly significant discovery.

Adjust (v): adapt, gradually become familiar with a new situation:
It is amazing how quickly kids adjust.

Aspect (n): a part, a feature:
Alcoholism affects all aspects of family life.

5

Hence (adv): for this reason, thus:
The company lost a great deal of money. Hence, the director was asked to resign.

Significant (adj): noticeable or important:
Your work has shown a significant improvement.

Adjust (v): gradually become familiar with a new situation:
Adjusting to the tropical heat was more difficult than I had expected.

Aspect (n): a part, a feature:
Fun is one aspect of her character he has not seen before.

4

Hence (adv): for this reason, thus:
The roads were covered in ice; hence, it was not safe to drive.

Significant (adj): noticeable or important:
Please inform us if there are any significant changes in your plans.

Adjust (v): gradually become familiar with a new situation:
It took time to adjust myself to my new job.

Aspect (n): a part, a feature:
Dealing with people is the most important aspect of my work.

Screenshots of SMS Set 3

1 Advocate (v) :to strongly support a particular way of doing things:
The group does not advocate the use of violence.

Generate (v) : produce or make something:
We need someone to generate new ideas.

Controversy (n) : serious disagreement among many people over a plan, decision, etc., over a long period of time:
Controversy began over the use of the chemicals on vegetables.

Perceive (v): understand or think about something in a particular way:
Many students perceive that on-the-job training is more important than college.

4 Advocate (v) :to strongly support a particular way of doing things:
Heart specialists strongly advocate low-cholesterol diets.

Generate (v) : produce or make something:
The program will generate a lot of new jobs.

Controversy (n) : serious disagreement among many people over something:
Much controversy surrounds the new medicine.

Perceive (v): understand or think about something in a particular way:
Helen Keller did not perceive herself as disabled.

3 Advocate (v) :to strongly support a particular way of doing things:
He advocated higher salaries for the workers.

Generate (v) : produce or make something:
Tourism generates income for local communities.

Controversy (n) : serious disagreement among many people over something:
The judges' decision provoked controversy.

Perceive (v): understand or think about something in a particular way:
The General's words were perceived as a threat by countries in the region.

2 Advocate (v) :to strongly support a particular way of doing things:
He is well-known for advocating family values.

Generate (v) : produce or make something:
Reed hopes the exhibit will generate interest in the museum.

Controversy (n) : serious disagreement among many people over a plan, decision, etc., over a long period of time:
There is controversy over the proposed development.

Perceive (v): understand or think about something in a particular way:
The government was widely perceived as corrupt.

5 Advocate (v) :to publicly support a particular way of doing things:
Trotsky advocated worldwide revolution.

Generate(v) : produce, create:
The wind farm may be able to generate enough electricity for 2000 homes.

Controversy (n) : serious disagreement among many people over something:
The policy caused heated controversy since it was introduced.

Perceive (v): understand or think about something in a particular way:
How do the French perceive the British?

Screenshots of SMS set 4

1

Incentive (n): something that encourages you to work harder:

Good teachers give their students incentives to learn.

Adequate (adj): enough, sufficient:

The bursary given to students is less than adequate.

Potential (n): abilities and skills:

She has great potential as an artist.

Sustain (v): provide what is needed for sth or someone to live, exist or continue for longer time:

She found it difficult to sustain the children's interest.

4

Incentive (n): something that encourages you to do something:

Bonus payments provide an incentive to work harder.

Adequate (adj): enough, sufficient:

The room was small but adequate.

Potential (n): qualities or abilities that exist and can be developed:

The house has a lot of potential.

Sustain (v): provide what is needed for sth or someone to live, exist or continue for longer time:

Which policies can sustain economic growth?

3

Incentive (n): something that encourages you to work harder, or do sth:

What is the main incentive for students to join university?

Adequate (adj): enough, sufficient:

The garden has not been getting adequate water.

Potential (n): abilities and skills:

She has the potential to become a champion.

Sustain (v): provide enough of what somebody/ something needs in order to live, exist or continue for longer time:

They gave me barely enough food to sustain me.

2

Incentive (n): something that encourages you to work harder:

The chance of promotion acts as an incentive for many employees.

Adequate (adj): enough, sufficient:

Are the parking facilities adequate for 50 cars?

Potential (n): abilities and skills:

The company certainly has the potential for growth.

Sustain (v): keep going, continue:

This relationship would be very difficult to sustain.

5 Incentive (n): something that encourages you to do something:

We need to create an incentive for people to recycle their rubbish.

Adequate (adj): enough, sufficient:

He didn't give an adequate answer to the question.

Potential (n): qualities or abilities that exist and can be developed:

Signing for a top club will enable him to fulfil his true potential.

Sustain (v): provide what is needed for sth or someone to live, exist or continue for longer time:

The support of his family sustained him during his time in prison.

Screenshots of SMS Set 5

1

criteria (n): standards or levels of quality used to judge something or make a decision:

The college selection criteria are very strict.

approach (n): method, a way of doing or thinking about a situation, problem etc:

He uses a new approach to teach languages.

accurate (adj): precise, exact: Police believe Derek gave an accurate account of what happened.

emphasise (v): give a special importance to, stress
His speech emphasized the idea of attracting industry to the town.

4 criteria (n): standards or levels of quality used to judge something or make a decision:

There are certain criteria you should apply when buying a computer.

approach (n): a way of doing something or thinking about a situation, issue, etc:

Each of the delegates suggested a different approach to the problem.

accurate (adj): precise, exact, true in every detail:

The authorities do not have accurate information about the causes of the crash.

emphasise (v): give a special importance to, stress:

My teacher always emphasized the importance of studying hard.

3

criteria (n): standards or levels of quality used to judge something or make a decision:

The person who meets the criteria will get the post.

approach (n): a way of doing something or thinking about a situation, problem etc:

The school has decided to adopt a different approach to discipline.

accurate (adj): precise, exact, true in every detail:

His description of the man was very accurate.

emphasise (v): give a special importance to, stress:

It is important to emphasize this point.

2

criteria (n): standards or levels of quality used to judge something or make a decision:

What criteria are used for assessing a student's paragraph?

approach (n): method, a way of doing or thinking about a situation, problem etc:

She took the wrong approach in her dealing with the problem.

accurate (adj): precise, exact:

My watch is not very accurate.

emphasise (v): give a special importance to, stress:

Mothers always emphasize good manners.

5

criteria (n): standards or levels of quality used to judge something or make a decision:

All the cars meet strict criteria, and are tested by our mechanics.

approach (n): a way of dealing with or thinking about a situation, issue, etc:

A new approach to pollution control must be adopted.

accurate (adj): precise, exact, true in every detail:

It is difficult to get accurate numbers of the population.

emphasise (v): give a special importance to:

Psychologists emphasize the need for parents to listen to their children.

APPENDIX D: THE POST-TESTS

Productive Vocabulary Knowledge Test

NAME:
GROUP:

Question: Complete the unfinished words. An example is done for you.

She was wearing a green **dress**.

1. Former President Jimmy Carter once said that we all must **adj**..... to changing times, and still hold to unchanging principles.
2. Ancient Egyptians regarded the heart as the centre of intelligence and emotion, and they believed that the brain was not **sig**..... at all.
3. The newly-elected president tends to **adv**..... a greater role for government in ensuring a proper education for all its citizens.
4. Since there is a great deal of **contr**..... surrounding the protest march, there will be a huge police presence on the street.
5. The Austrian philosopher Ludwig Wittgenstein once observed that if we spoke a different language, we would see a **som**..... different world.
6. One particular **asp**..... of living abroad that can cause problems is the difficulty of communicating in a foreign language.
7. Independent for more than 300 years, Iceland was **sub**..... governed by Norway and Denmark until 1944.
8. About a quarter of the population of India is too poor to be able to find the money for an **ade**..... diet.
9. In Japan, the government is now offering financial **inc**..... to consumers who buy cars which produce less pollution.
10. The government will find it difficult to **sus**..... this economic growth.
11. I must **emp**..... that this is only a summary, and the full report will not be available until next week.
12. He could not sleep because of the noise coming from the **adj**..... apartment.
13. If you are a young, inexperienced driver, it is worth having **compr**..... insurance.
14. George Washington once noted that actions, not words, are the true **cri**..... of the attachment of friends.
15. As a detective, Chris always uses a methodical **app**..... to catch the killer.
16. Because the thermometer is running on old batteries, it may not give you an **acc**..... temperature reading.
17. Voters **per**..... him as an influential and strong-minded international leader.

- 18. Illegal medicines are produced without regulatory control, and **hen**..... can contain many dangerous substances.
- 19. Galileo's discoveries regarding the universe tended to **gen**..... strong interest and debate.
- 20. You will never achieve your goals if you do not believe in your **pot**..... .

Receptive Vocabulary Knowledge Test

NAME:

GROUP:

Question: Choose the right word to go with each meaning. Write the number of that word next to its meaning. Here is an example.

- 1 business
 - 2 clock
 - 3 horse
 - 4 pencil
 - 5 shoe
 - 6 wall
- 6 part of a house
3 animal with four legs
4 something used for writing

- 1 adjacent
 - 2 forthcoming
 - 3 accurate
 - 4 abstract
 - 5 comprehensive
 - 6 contemporary
- _____ all-inclusive, complete
_____ correct and true in every detail
_____ bordering or next to

- 1 adequate
 - 2 approximate
 - 3 discrete
 - 4 distinct
 - 5 significant
 - 6 evident
- _____ enough, sufficient
_____ important

- 1 restrict
 - 2 emphasise
 - 3 retain
 - 4 adjust
 - 5 accommodate
 - 6 perceive
- _____ say or show that you think that something is especially important
_____ think about something or someone in a particular way
_____ gradually get used to a new situation by making small changes to the way you do things

- 1 sustain
 - 2 advocate
 - 3 evolve
 - 4 generate
 - 5 intervene
 - 6 deny
- _____ provide with what is needed to live exist or continue for longer time
_____ publicly support a particular way of doing things
_____ produce or cause something to exist

- 1 potential
 - 2 aspect
 - 3 data
 - 4 promotion
 - 5 alternative
 - 6 criteria
- _____ a part of a situation, problem, subject, etc. that is important or typical
_____ a natural ability or quality that could develop to make a person or a thing very good
_____ standards used to judge something or make a decision about something

- 1 relevance
 - 2 incidence
 - 3 incentive
 - 4 controversy
 - 5 display
 - 6 approach
- _____ a method of dealing with a problem, considering or doing something
_____ something that motivates you to work harder
_____ a strong disagreement about something among many people

- 1 thereabouts
- 2 despite
said
- 3 somewhat
- 4 hence
- 5 subsequently
- 6 whereas

_____ used to show that what you are about to say is a result of what you have just

_____ slightly

_____ happening or coming after something else in order or time

Appendix E: Students' Questionnaire about Word-focused Activities

QUESTIONNAIRE

Dear student,

This questionnaire is intended to look into the effectiveness of word-focused activities for teaching vocabulary words.

We will be thankful if you fill this questionnaire honestly by putting a tick (✓) in the appropriate box or boxes and providing full answers where necessary.

1. How did you find the number of activities to study each set of words?

- a. more than adequate
- b. adequate
- c. less than adequate

2. How did you find the time spent in dealing with the activities?

- a. more than adequate
- b. adequate
- c. less than adequate

3. How did you find the number of four words per session?

- d. big
- e. adequate
- f. small

- Would you justify your answer, please?

4. Did you find the activities varied?

- a. Yes

b. No

5. Which types of activities did you find effective for learning vocabulary?

- f. matching words and definitions
- g. filling in the gaps
- h. MCQ (replacing words with their synonyms)
- i. paraphrasing (expressing the idea differently)
- j. sentence / paragraph writing

6. In your opinion, what were the advantages of activities for learning vocabulary?

- a. they were useful for learning words
- b. they were helpful for memorizing words
- c. they were practical for reviewing words
- d. they made learning vocabulary motivating
- e. others:.....

7. What were the disadvantages of the activities?

- e. they were difficult to answer
- f. they were not interesting
- g. there were too many activities
- h. Others:.....

8. In your opinion, how much was using word-focused activities an effective method for learning vocabulary?

- a. very much
- b. much
- c. moderately
- d. a bit
- e. not at all

9. What did you like about word-focused activities as a way for learning vocabulary?

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10. What didn't you like about word-focused activities as a way for learning vocabulary?

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11. Please, feel free to add any further comments or suggestions related to the purpose of this questionnaire.

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Thank you for your cooperation

Appendix F: Students' Questionnaire about SMS-based Learning

QUESTIONNAIRE

Dear student,

This questionnaire is intended to look into the effectiveness of the SMS-based method for teaching vocabulary words.

We will be thankful if you fill this questionnaire honestly by putting a tick (✓) in the appropriate box or boxes and providing full answers where necessary.

SECTION ONE: BACKGROUND INFORMATION

1. Do you like to

- a. receive SMS
- b. send SMS
- c. both of them
- d. none of them

2. Have you participated in SMS based learning before this time?

- a. Yes
- b. No

- if 'Yes', would you please tell what the SMS were about?

.....

SECTION TWO: SMS-BASED VOCABULARY TEACHING

3. When did you read each SMS you received (SMS with a new set of words)?

- a. as soon as you received it.
- b. some time after you received it.

- c. later on, when you were free.
- d. If only possible. If not, you did not read it at all.

4. How many times did you read each new SMS (SMS with a new set of words)?

- a. once
- b. twice
- c. three times
- d. four times
- e. five times
- f. More (specify the number of times: times)

5. If your reading of the SMS was irregular, would you please specify the number of times you read each new vocabulary SMS?

- a. SMS with the **first** set of words (comprehensive, adjacent, somewhat, subsequently): times.
- b. SMS with the **second** set of words (hence, significant, adjust, aspect): times.
- c. SMS with the **third** set of words (advocate, generate, controversy, perceive): times.
- d. SMS with the **fourth** set of words (incentive, adequate, potential, sustain): times.
- e. SMS with the **fifth** set of words (criteria, approach, accurate, emphasise): times.

6. Which part of the SMS did you usually read?

- a. word and definition only
- b. example sentence only
- c. both of them

7. Was the timing of receiving the SMS appropriate?

- a. Yes
- b. No

- If "No", would you please explain why:

.....

.....
.....

8. How did you find the number of four words per SMS?

- d. big
- e. adequate
- f. small

- If not adequate, how many words would you prefer to receive per SMS? words per SMS.

9. How did you find the number of repetitions of each SMS (5 times) for learning the words by heart?

- d. more than necessary
- e. adequate (ok)
- f. less than necessary

10. What were the advantages of SMS-based method for learning vocabulary?

- f. useful for learning vocabulary
- g. helpful for memorising vocabulary
- h. practical for reviewing words anywhere, anytime
- i. makes learning vocabualry motivating
- j. others, please specify

.....

11. What were the disadvantages of SMS based method for learning vocabulary?

- a. difficult to read from the small screen of the mobile phone
- b. long texts
- c. too many SMS
- d. interrupt my daily activities
- e. others:

.....

.....

12. In your opinion, how much was using SMS an effective method for learning vocabulary?

- a. very much
- b. much

c. moderately

d. a bit

e. not at all

13. In the future, which aspects of English would you like to learn through SMS?

e. more words

f. grammar structures

g. pronunciation

h. others:.....
.....

14. What did you like about SMS as a way for learning vocabulary?

.....
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.....
.....
.....

15. What didn't you like about SMS as a way for learning vocabulary?

.....
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16. Please, feel free to add any further comments or suggestions related to the purpose of this questionnaire.

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.....
.....

Thank you for your cooperation

Appendix G: Students' Questionnaire about the Blended Method (SMS-based Learning and Word-focused Activities Combined)

QUESTIONNAIRE

Dear student,

This questionnaire is intended to look into the effectiveness of combining both SMS and word-focused activities for teaching vocabulary words.

We will be thankful if you fill this questionnaire honestly by putting a tick (✓) in the appropriate box or boxes and providing full answers where necessary.

SECTION ONE: BACKGROUND INFORMATION

1. Do you like to

- e. receive SMS
- f. send SMS
- g. both of them
- h. none of them

2. Have you participated in SMS based learning before this time?

- c. Yes
- d. No

- if 'Yes', would you please tell what the SMS were about?

.....
.....

SECTION TWO: SMS-BASED VOCABULARY TEACHING

3. When did you read each SMS you received (SMS with a new set of words)?

- e. as soon as you received it.

- f. some time after you received it.
- g. later on, when you were free.
- h. If only possible. If not, you did not read it at all.

4. How many times did you read each new SMS (SMS with a new set of words)?

- g. once
- h. twice
- i. three times
- j. four times
- k. five times
- l. More (specify the number of times: times)

5. If your reading of the SMS was irregular, would you please specify the number of times you read each new vocabulary SMS?

- f. SMS with the **first** set of words (comprehensive, adjacent, somewhat, subsequently): times.
- g. SMS with the **second** set of words (hence, significant, adjust, aspect): times.
- h. SMS with the **third** set of words (advocate, generate, controversy, perceive): times.
- i. SMS with the **fourth** set of words (incentive, adequate, potential, sustain): times.
- j. SMS with the **fifth** set of words (criteria, approach, accurate, emphasise): times.

6. Which part of the SMS did you usually read?

- d. word and definition only
- e. example sentence only
- f. both of them

7. Was the timing of receiving the SMS appropriate?

- a. Yes
- b. No

- If "No", would you please explain why:

.....

8. How did you find the number of four words per SMS?

- g. big

h. adequate

i. small

- If not adequate, how many words would you prefer to receive per SMS?.....words per SMS.

9. What were the disadvantages of SMS based method for learning vocabulary?

f. difficult to read from the small screen of the mobile phone

g. long texts

h. too many SMS

i. interrupt my daily activities

j. others:
.....

10. In the future, which aspects of English would you like to learn through SMS?

i. more words

j. grammar structures

k. pronunciation

l. others:.....

SECTION THREE: WORD-FOCUSED ACTIVITIES

11. How did you find the number of activities to study each set of words?

d. more than adequate

e. adequate

f. less than adequate

12. How did you find the time spent in dealing with the activities?

d. more than adequate

e. adequate

f. less than adequate

13. How did you find the number of four words per session?

g. big

h. adequate

i. small

- Would you justify your answer, please?

14. Did you find the activities varied?

a. Yes

b. No

15. Which types of activities did you find effective for learning vocabulary?

k. matching words and definitions

l. filling in the gaps

m. MCQ (replacing words with their synonyms)

n. paraphrasing (expressing the idea differently)

o. sentence / paragraph writing

16. What were the disadvantages of the activities?

i. they were difficult to answer

j. they were not interesting

k. there were too many activities

l. Others:.....

SECTION FOUR: THE BLENDED METHOD

17. How do SMS compare to word-focused activities? Tick in the right box.

comparison item	SMS	activities
a. more useful for learning words		
b. more helpful for memorising words		
c. more practical for reviewing vocabulary		
d. making learning vocabulary funnier		
e. more motivating		
f. more difficult		

18. In your opinion, how much was using a combination of SMS and activities effective for learning new words?

- f. very much
- g. much
- h. moderately
- i. a bit
- j. not at all

19. In the future, through which method would you like to learn new words?

- k. SMS only
- l. activities only
- m. a combination of both SMS and activities

20. What did you like about combining SMS and activities together as a way for learning vocabulary?

.....

.....

.....

.....

21. What didn't you like about combining SMS and activities together as a way for learning vocabulary?

.....

.....

.....

.....

22. Please, feel free to add any further comments or suggestions related to the purpose of this questionnaire.

.....

.....

.....

.....

Appendix H: Operational Definitions of the Terms of the Study

Vocabulary: Vocabulary, as used in this study, "... can be defined as the words we teach in the foreign language" (Ur, 1996, p. 60), and chunks "... of several words which convey a particular meaning, the way individual words do" (Lewis, 1993, p. 2) are excluded.

Unintentional Vocabulary Learning: Learners learn vocabulary *incidentally* as the by-product of engaging in activities not aiming at learning vocabulary per se (Nagy, Herman, Anderson and Pearson 1984; Hulstijn, 2001). In contrast, Laufer (2010) maintained that students learn words *incidentally* when they *attend to* them via deliberate study activities, but they do not try to memorize them because of an upcoming test or a personal will to. Here, accidentalness is used in Laufer's way and is operationalized in terms of not informing learners that their knowledge of vocabulary will be tested later on.

Task: Ellis (2003) defines a task as a work plan which focuses primarily on meaning, involves real-world processes of language use, and aims at a communicative outcome where learners need to use their own resources to bridge 'a gap' in communication. But, Ur (2008, p.44) views a task as "a learner activity", and Scrivener (2005, p. 41) details: "Something that learners do that involves them using or working with language to achieve some specific outcome." The outcome, both writers agree, can but must not be communicative (which is typical of task-based instruction). A task can be an exercise aimed at learning a given aspect of the language. Accordingly, tasks or activities range from grammar and pronunciation drills, to problem-solving questions, to writing assignments, to vocabulary games (Scrivener, 2005; Ur, 2008). In this research, Ur's and Scrivener's conceptualisation of task is adopted; therefore, task and activity are used interchangeably to mean any assignment that students are asked to do.

Résumé

La présente étude vise à étudier les effets des exercices de vocabulaire, messages courts (SMS), et leur combinaison sur l'apprentissage réceptif et productif de nouveaux mots dans une langue étrangère par les apprenants algériens, ainsi qu'à explorer les attitudes des étudiants à l'égard de chacune de ces méthodes. L'étude compte soixante étudiants de première année anglais au Département d'anglais à l'Université des Frères Mentouri, Constantine¹. Les étudiants ont été divisés en trois groupes de vingt sujets chacun, correspondant aux trois méthodes d'enseignement. Ils ont subi un test, ont appris vingt mots ciblés, et ont été testés encore une fois. Le premier groupe a étudié les mots ciblés par le biais des exercices de vocabulaire, en classe pendant deux semaines; le deuxième groupe a reçu les mêmes mots, leurs significations et des exemples d'usage par SMS sur leurs téléphones mobiles, de manière espacée sur la même période. Le troisième groupe a étudié les mots par le moyen des deux méthodes (exercices de vocabulaire et SMS). D'une part, les résultats ont révélé que tous les groupes ont pu améliorer leurs connaissances réceptives et productives des mots enseignés. D'autre part, les tests ANOVA et Scheffé ont indiqué qu'il existe des différences statistiquement significatives entre les trois méthodes. Il s'ensuit que les hypothèses de recherche testées dans cette étude ont été confirmées: (a) l'utilisation de méthodes différentes ont donné des résultats différents; (b) les messages courts ont amélioré l'apprentissage du vocabulaire réceptif; (c) les exercices de vocabulaire ont amélioré l'apprentissage du vocabulaire productif, et (d) leur combinaison a amélioré l'apprentissage du vocabulaire réceptif et productif. En outre, les questionnaires ont montré que les étudiants ont des attitudes positives à l'égard des différentes méthodes, mais à des degrés divers. L'implication pédagogique principale dictée par les résultats de cette étude est que les exercices de vocabulaire sont toujours efficaces et favorisés. L'apprentissage par SMS peut

être plus efficace si certaines recommandations sont prises en compte. Leur combinaison est la plus appréciée par les étudiants.

الملخص

تهدف الدراسة الحالية الى التحقيق في آثار و فاعلية ثلاثة أساليب تعليمية وهي التمارين الخاصة بالمفردات، الرسائل النصية القصيرة (SMS)، و استعمالهما معا على مدى تعلم الطلبة الجزائريين للمفردات من أجل الفهم من جهة و التعبير او الإنتاج من جهة أخرى. كما تهدف الدراسة أيضا الى استطلاع آراء ومواقف الطلبة اتجاه هذه الأساليب التعليمية الثلاثة. شارك في الدراسة ستون طالبًا في السنة الأولى من قسم اللغة الإنجليزية بجامعة الإخوة منتوري، قسنطينة1. تم إسناد الطلبة بطريقة عشوائية لواحدة من الأساليب الثلاثة، وتم اختبارهم مسبقًا، ثم تعليمهم عشرون كلمة، واختبارهم فيها لاحقًا. حيث أنه تلقى المشاركون في فوج الأنشطة تعليمًا يركز على حل تمارين عديدة حول مفردات معينة، وذلك داخل القسم لمدة أسبوعين؛ و تلقى فوج الرسائل القصيرة الكلمات مع معانيها و أمثلة عن استعمالها في جمل كثيرة من خلال الرسائل القصيرة على هواتفهم المحمولة، بطريقة متباعدة خلال نفس الفترة؛ كما قام الطلبة في فوج الطريقة المختلطة بدراسة الكلمات باستخدام كلتا الطريقتين (الأنشطة الخاصة بالمفردات سويًا مع الرسائل القصيرة). أظهرت نتائج اختبارات ما بعد التدريس أن طرق التعليم الثلاثة أدت الى تحسن في مستوى التحصيل المعرفي للكلمات المدرسة فهما (للمنطوق والمكتوب) وإنتاجا (في التعبير الشفوي والكتابي) من طرف الطلبة، ولكن بدرجات متفاوتة حسب الطريقة المتبعة في التدريس. ترتب على هذه النتائج تأكيد الفرضيات التي قامت عليها هذه الدراسة ألا وهي: (أ) أدت الطرق المختلفة إلى نتائج مختلفة؛ (ب) عززت الرسائل القصيرة تعلم المفردات فهما و إدراكا لمعانيها؛ (ج) عززت الأنشطة تعلم المفردات فهما و إنتاجا، (د) وعزز الجمع بينها تعلم المفردات فهما و إنتاجا معا. إلى جانب ذلك، أظهرت نتائج الاستبيان أن لدى الطلبة مواقف إيجابية تجاه الأساليب المختلفة، ولكن بدرجات متفاوتة أيضا. و عليه أهم الاستنتاجات التي تملحها نتائج هذه الدراسة على المستوى البيداغوجي هي: أولا، الأنشطة التقليدية الخاصة بالمفردات لا تزال فعالة ومفضلة لدى الطلبة رغم كوننا في عصر الرقمنة. ثانيا، يمكن أن يكون التعليم المعتمد على الرسائل النصية القصيرة أكثر كفاءة إذا تم أخذ عدد من المتطلبات بعين الاعتبار عند تطبيقه. ثالثا، الجمع بين الطريقتين هو الأكثر فاعلية من وجهة نظر الطلبة.

الكلمات الرئيسية: الأنشطة الخاصة بالمفردات، الرسائل القصيرة (SMS)، الطريقة المختلطة، ومفردات لفهم المنطوق والمكتوب، مفردات الإنتاج أو التعبير الشفوي و الكتابي.