USING MOBILE PHONES FOR VOCABULARY ACQUISITION IN AN ESL CLASSROOM

PAULINE GEORGINA PRIYA A/P HEBERT SUNDRAM

FACULTY OF LANGUAGES AND LINGUISTICS
UNIVERSITY OF MALAYA
KUALA LUMPUR

2017

USING MOBILE PHONES FOR VOCABULARY ACQUISITION IN AN ESL CLASSROOM

PAULINE GEORGINA PRIYA A/P HEBERT SUNDRAM

DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF ENGLISH AS A SECOND LANGUAGE

FACULTY OF LANGUAGES AND LINGUISTICS
UNIVERSITY OF MALAYA
KUALA LUMPUR

2017

UNIVERSITY OF MALAYA

ORIGINAL LITERARY WORK DECLARATION

Name of Candidate: Pauline Georgina Priya a/p Hebert Sundram

(I.C/Passport No: [redacted])

Matric No: TGB 110051

Name of Degree: Masters of English as a Second Language

Title of Project Paper/Research Report/Dissertation/Thesis ("this Work"):

Using Mobile Phones for Vocabulary Acquisition in an ESL Classroom

Field of Study: Language Acquisition

I do solemnly and sincerely declare that:

(1) I am the sole author/writer of this Work;
(2) This Work is original;
(3) Any use of any work in which copyright exists was done by way of fair dealing and for permitted purposes and any excerpt or extract from, or reference to or reproduction of any copyright work has been disclosed expressly and sufficiently and the title of the Work and its authorship have been acknowledged in this Work;
(4) I do not have any actual knowledge nor do I ought reasonably to know that the making of this work constitutes an infringement of any copyright work;
(5) I hereby assign all and every rights in the copyright to this Work to the University of Malaya ("UM"), who henceforth shall be owner of the copyright in this Work and that any reproduction or use in any form or by any means whatsoever is prohibited without the written consent of UM having been first had and obtained;
(6) I am fully aware that if in the course of making this Work I have infringed any copyright whether intentionally or otherwise, I may be subject to legal action or any other action as may be determined by UM.

Candidate's Signature Date: 13 March 2017

Subscribed and solemnly declared before,

Witness's Signature Date: 13 March 2017

Name: Dr. Norizah binti Hassan

Designation: Senior Lecturer

UNIVERSITI MALAYA

PERAKUAN KEASLIAN PENULISAN

Nama: (No. K.P/Pasport:)

No. Matrik:

Nama Ijazah:

Tajuk Kertas Projek/Laporan Penyelidikan/Disertasi/Tesis ("Hasil Kerja ini"):

Bidang Penyelidikan:

Saya dengan sesungguhnya dan sebenarnya mengaku bahawa:

(1) Saya adalah satu-satunya pengarang/penulis Hasil Kerja ini;
(2) Hasil Kerja ini adalah asli;
(3) Apa-apa penggunaan mana-mana hasil kerja yang mengandungi hakcipta telah dilakukan secara urusan yang wajar dan bagi maksud yang dibenarkan dan apa-apa petikan, ekstrak, rujukan atau pengeluaran semula daripada atau kepada mana-mana hasil kerja yang mengandungi hakcipta telah dinyatakan dengan sejelasnya dan secukupnya dan satu pengiktirafan tajuk hasil kerja tersebut dan pengarang/penulisnya telah dilakukan di dalam Hasil Kerja ini;
(4) Saya tidak mempunyai apa-apa pengetahuan sebenar atau patut semunasabahnya tahu bahawa penghasilan Hasil Kerja ini melanggar suatu hakcipta hasil kerja yang lain;
(5) Saya dengan ini menyerahkan kesemua dan tiap-tiap hak yang terkandung di dalam hakcipta Hasil Kerja ini kepada Universiti Malaya ("UM") yang seterusnya mula dari sekarang adalah tuan punya kepada hakcipta di dalam Hasil Kerja ini dan apa-apa pengeluaran semula atau penggunaan dalam apa jua bentuk atau dengan apa juga cara sekalipun adalah dilarang tanpa terlebih dahulu mendapat kebenaran bertulis dari UM;
(6) Saya sedar sepenuhnya sekiranya dalam masa penghasilan Hasil Kerja ini saya telah melanggar suatu hakcipta hasil kerja yang lain sama ada dengan niat atau sebaliknya, saya boleh dikenakan tindakan undang-undang atau apa-apa tindakan lain sebagaimana yang diputuskan oleh UM.

Tandatangan Calon Tarikh:

Diperbuat dan sesungguhnya diakui di hadapan,

Tandatangan Saksi Tarikh:

Nama:

Jawatan:

ABSTRACT

The importance of dictionaries in language learning and the usage of mobile phone in this digital era is indisputable. The emergence of mobile phone application dictionary has noticeably influenced the way students learn English as a Second Language (ESL). This study examines the ESL learners' use of mobile phone in vocabulary acquisition and their perception of learning vocabulary using mobile phone. The study involved 30 intermediate level students studying the Intensive English Program (IEP) in Segi University, Kota Damansara. The students who participated in this study are from China and Middle East. Data for this study was collected through tests, essays, questionnaire and interview. Data obtained from the tests and questionnaires were analyzed using the SPSS software in order to determine the effectiveness of mobile phone dictionary application for vocabulary acquisition and to identify students' preferences in using mobile phone in learning English as a second language. The data collected through essays and interviews were used to triangulate and strengthen the findings. The findings show that mobile technology particularly the usage of mobile application dictionary contributes towards the vocabulary acquisition of ESL learners. They also show that students have positive preferences towards using mobile phones in learning new vocabularies. The study also displays some of the limitations in utilizing of the mobile application dictionary in vocabulary acquisition for language learners.

ABSTRAK

Kepentingan kamus dalam pembelajaran bahasa dan penggunaan telefon bimbit dalam era digital tidak dapat dinafikan. Kemunculan aplikasi kamus dalam telefon bimbit telah mempengaruhi cara pembelajaran Bahasa Inggeris sebagai bahasa kedua (ESL) oleh para pelajar. Kajian ini mengkaji penggunaan telefon bimbit dalam pemerolehan kosa kata para pelajar ESL dan persepsi mereka ke arah pengunaan telefon bimbit dalam pemerolehan kosa kata. Kajian ini melibatkan 30 pelajar peringkat pertengahan yang belajar dalam Program Intensif Bahasa Inggeris (IEP) di Segi University, Kota Damansara. Pelajar-pelajar yang telah mengambil bahagian dalam kajian ini adalah dari negara China dan Timur Tengah. Data kajian ini dikumpul melalui ujian, esei, soal selidik dan temu bual. Data yang diperolehi dari ujian dan soal selidik dianalisis menggunakan perisian SPSS bagi menentukan keberkesanan aplikasi kamus telefon mudah alih untuk pemerolehan kosa kata dan mengenal pasti keutamaan pelajar menggunakan telefon bimbit dalam pembelajaran Bahasa Inggeris sebagai bahasa kedua. Data yang dikumpul melalui esei dan temubual telah digunakan untuk triangulasikan dan mengukuhkan dapatan kajian. Dapatan kajian menunjukkan bahawa teknologi mudah alih membantu pembelajaran terutamanya penggunaan aplikasi kamus telefon bimbit dalam pemerolehan kosa kata para pelajar ESL. Dapatan ini juga menunjukkan bahawa para pelajar mempunyai keutamaan yang positif ke arah menggunakan telefon bimbit dalam pembelajaran kosa kata baru. Kajian ini juga memaparkan beberapa batasan yang menggunakan aplikasi kamus telefon bimbit dalam pembelajaran kosa kata pelajar-pelajar bahasa. Penyelidikan lanjut disarankan untuk mengkaji keberkesanan penggunaan kamus mudah alih lain pada masa hadapan.

ACKNOWLEDGEMENTS

First and above all I praise and thank The Almighty God and Savior Jesus Christ for His graciousness for giving me the opportunity to embark in this journey of pursuing knowledge and completing my Master of English as a Second Language in University of Malaya. I would like to express my sincere appreciation and gratitude to my dissertation supervisor Dr. Norizah binti Hassan for her continuous guidance throughout the process of completing this dissertation. Thank you for your support and encouragement throughout the whole of writing process of this dissertation. I would like to thank my panels for their inspiring suggestions have been precious for the development of the content of this dissertation. I am also indebted to all my teachers and lecturers who have been a source of knowledge from the beginning.

I would also like to thank my parents Mr. Hebert Sundram and Mrs. Clementine and little sister Evelyn Hebert for their material and spiritual support in all aspects of my life. A special thanks goes to pastors, church members, loved ones and Mrs. Florence Samuel who continuously uphold me in their prayers and be my constant source of encouragement and enthusiasm. My warm thanks and appreciation goes to my lovely roommate Preeyya Tharsini Kumaran for her great patience and understanding. And not forgetting my friend Shalini Radhakrishnan who provided assistance in numerous ways specially.

May God bless all of you. Thank you.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter of the study provides insights on background information and discusses the problem statement. Next, the research objectives and research questions along with the research significance, rationale and limitations of the study are also conversed in this chapter. This chapter ends with the organization of the dissertation.

1.2 Background of the study

Technology is expanding exponentially nowadays, particularly in the mobile technology industry. The evolution of mobile devices has not only revolutionized communication but also enhanced the learning and teaching experience. Among all technological devices, mobile phone is the most widely used device throughout the world, utilized most among university students. When learning a foreign language, especially the English language, vocabulary acquisition is crucial particularly in comprehending as well as communicating. Vocabulary is a fundamental aspect of language teaching and learning because a lack in vocabulary would cause language learners to be unable to comprehend ideas, what more, express them through any skills whether reading, writing, listening or speaking. The essence of learning a foreign language is to master its vocabulary (Akın & Seferoğlu, 2004; Bruton, 2007; Erten & Tekin, 2008; Genç, 2004; McCarten, 2007; Moras, 2001; Newton, 2001; Tang & Nesi, 2003) as cited in Başoğlu & Akdemir (2010) .

Based on previous researches, scholars found out that learners prefer learning through mobile devices which enhanced vocabulary acquisition of foreign languages (Thornton & Houser,2003; Geddes, 2004; Suwantarathip & Orawiwatnakul, 2015). In the digital age of the 21st century; teenage lifestyles have changed accordingly

(Chanprasert & Han, 2013). Therefore mobile learning or M-learning is essential for language learning. M-Learning can be defined as "learning across multiple contexts, through social and content interactions" utilizing "personal electronic devices". It can also "be a form of distance education", where the learners make use of such devices as a learning tool according to convenience (Crescente, et. al, 2011).

M-learning technologies include hand held computers, notebooks, MP3 players, mobile phones and tablets. These technologies focus on the mobility of the learner while interacting socially with portable technologies. Using mobile tools for creating learning aids and materials becomes an important component of the learning process in this era.

In addition, M-learning is also convenient in that it is accessible from virtually anywhere. Sharing is almost instantaneous among everyone using the same content, which leads to the reception of instant feedback and tips. M-learning also brings strong portability by replacing books and notes with small devices, filled with tailored learning contents. Recognizing its potential and advantages, daily communication needs and cultural experiences can be fulfilled with M-learning (Kulkulska-Hulme, 2006 in Hu, 2011). Therefore, mobile phones are widely used as an efficient device for foreign language learners.

1.3 Problem statement

Learning capabilities can be expanded using mobile phone technology, in circumstances when independent learners lack the ability to learn effectively in a self-learning manner (Zhang and Song in Zhang, Song and Burston, 2011, p. 205) which requires innovative technology. This can be supported with Channell's theory on the role of students in acquiring vocabularies (Channel, 1981). Channell (1981) stated that students should be encouraged to make lexical associations (between a learner's first and second language knowledge) when they are actively learning a new vocabulary.

According to Roy (2013), words which are not learnt or used frequently remain abstract. The learners find it hard to utilize a word or comprehend its importance despite knowing the word. It may happen that the learner is not exposed to the vocabulary out of the text and contextual vocabulary is limited.

This study investigated how mobile phone helps in vocabulary acquisition and determine learners' perception towards the use of mobile phones for vocabulary acquisition. Vocabulary acquisition is fundamental in English language learning. Based on classroom observation, it is found that learners face most difficulties in conveying information because they do not have the vocabulary knowledge and cannot use the vocabulary correctly. Vocabulary is crucial for learners in building the capacity of comprehension and communication (Hu, 2011). Studies done by Roy (2013), Hu (2011) and Channel (1981) highlight the difficulties faced by the foreign language learners in vocabulary acquisition and vocabulary usage. This situation is similar to the participants of the research who are studying English in an ESL classroom.

1.4 Research Objectives

The following are the research objectives:

1. To identify if learners exhibit better understanding of vocabulary through the utilization of mobile phone.
2. To understand learners' perceptions on learning vocabulary with the use of mobile phone.

1.5 Research Questions

The research questions attempted to be answered in this study are the following:

1. How do second language learners use the mobile phone for vocabulary acquisition?
2. What are the learners' perceptions on learning vocabulary using mobile phones?

1.6 Significance of the study

A vast majority of foreign language learners who are learning English in an ESL context has an ultimate goal. Their goal is to learn the language and to be able to communicate well in that language. This study is critical to educators and second language learners. The discoveries of this study help them to comprehend the ways learners see the utilization of mobile phones in vocabulary acquisition. Besides, this study also provides insights on the effectiveness of mobile phones as a tool for language learning. The mobile phone was chosen in this study because language learning assisted by mobile technology shows that such device is easy to carry anywhere and creates different ways to learn (Hu, 2011) which means mobile phones are used at any place or time in the twenty first century. Along these lines, the

discoveries of this study are more noteworthy to learners of this portable innovation period.

The significance of this study is that the results will allow us to identify if students show or develop better understanding of the vocabulary through the utilization of mobile phones. Besides, this study can also be expanded to a broader effective pedagogical utilization of mobile technologies in language learning, which may introduce more in-depth studies of the use of technology, specifically mobile phone technology, in the development of the four language aptitudes which are the reading, writing skills, speaking and listening. In addition, mobile phone technology development can also associate technology-based language program designers and software developers by catering to the needs of English language learners.

Therefore, this study is important as the findings will provide insights on how vocabulary knowledge is acquired through mobile devices by foreign language learners because there is not much research on pedagogical usage of mobile phones in vocabulary acquisition (Thornton & Houser, 2005; Kennedy & Levy; 2005, Lu, 2008; Cavus & Ibrahim, 2009; Stockwell, 2010).

1.7 Limitation of the study

This study is confined to mobile phone and vocabulary acquisition of Intensive English Program (IEP) learners in Segi University. The results cannot be generalized to other ESL learners. According to Joe (1995), "case study data can provide insights into various learning processes". Indeed, this study provides reliable as well as valid findings which are significant to this study.

1.8 Organization of Dissertation

This dissertation is inclusive of five chapters. Chapter 1 is the introduction which includes the purpose, problem statement, research objectives, questions, significance and limitation; Chapter 2 is the literature review which provides all literature related to the study; Chapter 3 explains the methods, instruments and subjects of this study; Chapter 4 shows and explains the findings and analysis; and Chapter 5 is the conclusion chapter that discusses the results and provides a guide for future research.

1.9 Conclusion

Chapter 1 has served as the introduction by providing the background of the study and problem statement on the purpose of the study as well as the background of the research objectives and research questions. The background information helps to comprehend what the study is about. Moreover, the importance of the study to the ESL learners and teachers has been justified in great detail with the significance and rationale of conducting the study. The following chapter discusses a wide range of related literatures that serve as the important backbone of the present study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter discusses the related literature regarding mobile learning, mobile phones and its ever-present role in language learning and vocabulary acquisition. It starts off with a brief history of "learning English as a second language" in Malaysia and the introduction of the Intensive English Program (IEP); followed by the theories of language acquisition, studies on vocabulary acquisition, studies related to mobile technology, mobile phone, mobile learning, theories of mobile learning, studies related to mobile learning, mobile dictionary and the framework of the study.

2.2 Learning English as a Second Language in Malaysia

Literature on Learning English as a Second Language in Malaysia briefly provides insights and a bit of history on how the English language is addressed in Malaysia. Pillay (1998) concluded in one of her studies that English language is "considered a second language and has been relegated to the status of a subject in the school curriculum" (Pillay, 1998). This can be supported by Asmah Haji Omar (2002) who briefly describes the historical background of ESL in Malaysia.

According to Asmah (2002), English was introduced to the education system in Malaysia during the British colonial period (roughly during the 1960s). Today, it remains as part of Malaysian educational system. Malaysian schools have made English a compulsory subject for both primary and secondary students.

At the next level, undergraduates must complete a specified number of credit hour of English courses. This is based on their Malaysian University English Test (MUET) result. The MUET is a test of an individual's proficiency in English and is a necessary requirement for anyone who wish to enter into tertiary education at

Malaysian universities (Malaysian Examination Council, 2006). For the international students who are studying at universities, they are required to go through the Intensive English Program (IEP). Therefore, the term ESL "English as a Second Language" is used in schools and higher studies institutions, colleges and universities, local as well as private. However, in this study the respondents are students from different countries that address English as a foreign language which means they are EFL (English as a Foreign Language) learners learning English in an ESL context.

Internationally, many countries offer English classes in secondary level education; de De Mooij, 2005 and Nelson & Paek, 2007. Previously studies such as that of Goorhuis-Brouwer & De Bot in 2005 have shown that children can acquire two languages simultaneously from early childhood. Furthermore, proficiency in the primary language may even increase through the acquisition of a second language. According to Goorhuis-Brouwer & De Bot (2005), one of the key elements underpinning second language learning is the acquisition of an elaborate vocabulary, both active and passive. The active vocabulary is needed for speech and written communication in sentence structure; and the passive vocabulary knowledge is needed in order to comprehend written and spoken language (cited in Sandberg, J., Maris, M., & De Geus, K., 2011).

The language policy put in place by the Malaysian government has varied in an attempt to unify a multilingual society. Initially, in 1957 the introduction of Malay language of its status as the official language and the promotion of its use in government functions and other sectors moved to the Malay language after it became independent (Gill, 2002). English has, however, been accorded as the second official language and its importance has increased due to the government plan to be a fully developed and industrialized nation by 2020.

English is expanding in its purpose from its limited use for education and official records. As such, the role of English language is extended to include other circumstances, not just as the official language and in official documentation. A notable change in policy has been the shift of use of English for other knowledge areas such as technology and science.

Worldwide, a large bank of knowledge sources in such areas are already in English and to align with education dogma, English in Malaysia, therefore, is imparted as a second language. For example, this change was seen in 2003, entailing a language change in Malaysian Schools of all types for the Science and Math subject's instructional language. The language has shifted in the National schools from Bahasa Malaysia to English and the vernacular schools from the local community languages such as Tamil to English as well. Throughout various school environments, it is English that is placed and imparted as a second language in Malaysia (Gill, 2002).

Studies such as Ainol Madziah and Isarji, (2009); Samsiah, et al., (2009); and Thang, (2004) show us that the shift reflects the realization of the importance of English proficiency in the future goals of the country and individuals and that this is to be achieved by improving their English competency particularly in vocabulary acquisition.

Overall, this section serves as a background information on how English is considered to be a second language (ESL) in Malaysia and the existence of ESL classroom for students from various countries.

2.3 Intensive English Program (IEP)

The nature of Intensive English (IE) program is commonly recognized as accelerated, time-shortened, compressed, flexible and alternative (Scott & Conrad, 1992; Wodkowski, 2003). There are many different definitions and distinctions in the literature on accelerated education or intensive program, according to Tatum (2010). The length of class time as well as the number of classes are condensed in a shorter period compared to non-intensive or traditional courses. Sometimes, the educational process is compressed or reduced, altering the total contact hours of traditional semesters or structures; while, there are times when the total contact hours in the classroom is reduced in order to create an intensive learning environment for specific learning modules.

The intensive English course that is used as sample for this study compresses reading, writing, grammar, listening and speaking skills into four weeks of study per level. The IEP Program consists of 6 levels which are Elementary 1, Elementary 2, Intermediate 1, Intermediate 2, Upper Intermediate 1 and Upper Intermediate 2. The four weeks of study includes two hours of classes per skill, four hours a day. Therefore, students go through a total of ten hours of classes in a week. This is to help fast track Second Language (L2) learners to acquire English as a Second Language (ESL) in the shortest possible time so that their transition from school to university will be smoother. There are both positive and negative implications on the learners' learning process.

On a more positive note, Hong-Name and Leavell (2006) suggests that Intensive English Program (IEP) is an important step in developing both the students' Basic Interpersonal Communications Skill (BICS) and their Cognitive Academic Language

Proficiency (CALP). It has also been mentioned in several studies (Burton & Nesible, 2002; Scott and Conrad, 1991; Daniel, 2000) that L2 learners' motivation, commitment and engagement increase when courses are conducted intensively as many L2 learners find such courses more challenging, stimulating, effective, exciting and enjoyable. However, from the psychological point of views, Henebery (1997) argued that apart from not being able to digest compressed materials and condensed knowledge, L2 learners usually feel more tired, stressful and frustrated in an intensive program. Since literature on intensive English courses suggests inconsistencies in the effectiveness of such programs, further research in this area is needed. There are many psychological dimensions such as the cognitive, emotional and social aspects relating to accelerated or intensive learning, according to Tatum (2010). However, this study focused on the achievement of the learners in vocabulary acquisition through the use of mobile phones.

In Malaysia, specifically in Segi University, the Intensive English Program is commonly known as IEP. The IEP is designed with international students in mind, aiming to improve proficiency in order to maintain an IELTS score of between 5.0 and 5.5, enabling further international study abroad in English speaking countries as well as employment opportunities. The classes are held five days a week, from Monday to Friday. There are six levels which are the Elementary 1, Elementary 2, Intermediate 1, Intermediate 2, Upper Intermediate 1 and Upper Intermediate 2. Students have to attend 4 hours of classes which are based on the four language skills. Students have a total of 20 hours of classes in one week.

2.4 Theories of Language Acquisition

Krashen provides five hypotheses for second language acquisition theory. Namely, these are the Acquisition-Learning hypothesis, the Monitor hypothesis, the Input hypothesis, the Natural Order hypothesis, and the Affective Filter hypothesis. Nevertheless, only the Acquisition–Learning hypothesis is referred to as a guide in this study because it is closely related to vocabulary acquisition by second language learners.

According to Krashen (1981) language learning and language acquisition follow two different processes or systems. This difference is the most important of the ideas put forward in the theory. Krashen is widely known among experts in the field and discovered the two independent systems: "the acquired system" **(acquisition)** and "the learned system" **(learning).**

Krashen (1981) also explored that acquisition is a subconscious process like initial language acquisition processes with a first language. He found acquisition requires a meaningful interaction in the target language. Here the speakers are not concern with their form of utterances but more on their messages. In Krashen's view, learning is "less important than acquisition". In this study, language acquisition hypothesis is mainly used as the study is conducted on vocabulary acquisition for L2 learners of English.

Besides the Acquisition-Learning hypothesis, the Input hypothesis can also be linked to this study. Since the early 1980s, all five hypotheses of Stephen Krashen's Monitor Model, have been universally putative, arguably influencing the debate regarding how input influences SLA. Krashen's Input Hypothesis (Krashen & Terrel;

1983, Krashen, 1985) says that people acquired languages through comprehending messages, or "comprehensible input". Therefore the second language learners advance by a natural way of understanding input of language structures and vocabulary a tad bit more than what they can currently understand, which Krashen named as the **"i + 1 input "**. Therefore, the yet-to-be acquired vocabulary understanding and grammar rules will be comprehensible as learners would be able to do contextualizing within learned common language structures. Thus improving the knowledge on vocabulary is extremely important for success in tertiary level education. Learning language takes practice and time. It is an ongoing process.

Krashen (1985) restricts the role of interactional output, claiming that comprehensible input (**i + 1 input**) is both a necessary and sufficient aspect of learning language. Krashen also states that, "language production" does not "play a role in language acquisition" (Gregg, 1984; Sharwood-Smith 1986; Ellis, 1990 in Browne, 2003). He asserts that comprehensible input is a vital component for acquisition, which has been "widely accepted within the field of applied linguistics" (Long 1983a; Swain, 1981; Brown, 1985; Ellis, 1985 in Browne, 2003).

Other theorists of cognitive learning who had influenced in the understanding of language acquisition were Jean Piaget, David Ausubel, and Lev Vygotsky. Their contributions were more towards the constructivist models of learning and teaching. Their views on constructivism can be closely related to this study. Looking from a constructivist perspective, language acquisition is a process that combines both cognitive and sociocultural aspects. The cognitive aspect includes the knowledge or the schema acquired and the sociocultural aspect involves the connection made through communication, experience and culture. This can be applied to vocabulary acquisition because learners' tend to relate to their background knowledge to

understand a word. This situation occurs when learners are trying to acquire or understand words using the contextual clues.

Bruner (as cited in Driscoll, 2000) is also a constructivist who came up with a framework of active learning. This framework describes the process of language acquisition. According to Bruner, (as cited in Driscoll, 2000) newly acquired language is built upon current knowledge to form new ideas and concepts. Similar to Piaget (as cited in Byners, 1996), Bruner (in Driscoll, 2000) defined discovery as a means of acquiring knowledge using our own skills. This proposed that there is no such thing as accidental discovery or acquisition if it is a true act of discovery. Discovery merely anticipates patterns, relationships and regularities within the language environment. With this anticipation, language learners, particularly children, are able to devise strategies to enable them to discover these patterns. This is "an attitude of constructing". Any additional irregularities shape the language acquisition by restructuring previous knowledge. Bruner (in Driscoll 2000, p. 375) believes it is a part of a child's development to acquire the language necessary to represent aspects of the environment. He postulated that humans react and respond to the world and their environment through conventions of perception and language and logic. This can be related to vocabulary acquisition because constructivism involves construction of meaning to define a word. Therefore, Bruner's view can be linked to this study. Even though he mentioned about language acquisition among children, the same process are applied to the participants of this study who are learning English at a low proficiency level.

In an acquisition process the current or the previous knowledge and the learners' environment is vital. They help in using the words correctly in context. In addition, this involves independent learning which is more vital at a university level. They can

learn independently. Therefore, these representations are representative. Bruner (1966) also posited that discovery is a practical manifestation of mental problem solving and that this plays a significant role in intellectual development.

Scholars of theories of language acquisition are mentioned in this study even though they do not directly contribute to the study; because they do provide significance to this study particularly on the language acquisition process. Therefore, previous studies do contribute on literature to the current study.

2.5 Studies on Vocabulary Acquisition

Vocabulary has various meanings, one such meaning is that it is the collection of words that must be known in order to converse successfully. "Words in speaking" are termed "expressive vocabulary", whereas "words in listening" are termed "receptive vocabulary" (Neuman & Dwyer, 2009, p. 385). Alongside this, Hornby (1995) defined vocabulary "as the number of words in total, or rather a list of words and their corresponding meanings. Meanwhile, Ur (1998) as cited in Mofareh Alqahtani (2015) stated that vocabulary is the words taught in a foreign language, but 'vocabulary' may mean more than a word, it could be a phrase or a composite of words made of more than one part such as "mother-in-law" or "post office". These words contain more than one word, they represent a single idea. It is useful, therefore, to include all items by talking of "vocabulary items" as opposed to words as individuals. Additionally, Burns (cited in Mofareh Alqahtani 2015) offered the definition of vocabulary as a pantry, or stock of words accessed by a class, profession or individual. Zimmerman, as mentioned in Coady and Huckin (1998), suggests that vocabulary is a necessary and precarious aspect of language learning in its typical form and Diamond and Gutlohn (2006) add another slight variation that vocabulary is the knowledge of words and their

meanings. Thus, vocabulary can be defined as the total number of words required to effectively communicate. Therefore, learning vocabulary is important.

Vocabulary is a knowledge area of language which is significant in language acquisition (Cameron, 2001). Harmon, Wood, & Keser, (2009) and also Linse (2005) stated in their study that development of vocabulary is a significant aspect of language acquisition and development. Although vocabulary is an area that has been overlooked, it is increasingly garnering the focus of researches, namely, Carter and McCarthy (1988), Nation (1990), Arnaud and Bejoint (1992), Huckin, Haynes and Coady (1995), Coady and Huckin (1997), Schmitt (1997, 2000) Read (1997). These studies were done in the field of vocabulary.

Vocabulary acquisition plays an important role in ESL classroom and context Vocabulary is a crucial element in language acquisition or language learning. The IEP learners in this study need the vocabulary knowledge to be able to communicate as well as to complete any English tasks in an ESL classroom. Limited vocabulary impedes the effectiveness of communication. Therefore, vocabulary knowledge is seen to be a vital tool of language acquisition.

Schmitt (2000) emphasizes that a knowledge of the lexicon is a prerequisite of competently communicating and acquiring additional languages. Nation (2001) additionally builds on the complementary relationship between language usage and vocabulary; vocabulary awareness enables more effective use of language and in turn this enables the learner to acquire further vocabulary. Within the classroom, children with the widest vocabulary are among the most successful learners.

Researchers like Laufer and Nation (1999), Maximo (2000), Read (2000), Gu (2003), Marion (2008), Nation (2011) and others have honed in on the importance of

"vocabulary and its role in acquiring a second language" successfully in all areas of language, but particularly spoken and written language. Acquisition of vocabulary occurs throughout the four literacy skills, be it in ESL or EFL (Nation, 2001). Rivers and Nunan (1991) support the importance of vocabulary by emphasising that, without adequate and extensive vocabulary, the structures and functions of language lose their meaning. This is related to the current study conducted among the IEP students at Segi University, because the international students learning English in an ESL context need the vocabulary knowledge.

Among the research available, it has been shown that in acquiring a secondary language, the person who reads would depend on his or her knowledge of vocabulary. So, insufficient vocabulary knowledge is a major obstacle (Huckin, 1995). In practice, we draw upon the store of vocabulary knowledge whenever we have a need or wish to express a particular notion. Students prefer to carry dictionaries around, as Krashen puts it (as cited in Lewis, 1993, p.25).

Many researchers emphasize that curriculum should reflect this bias towards vocabulary as well. Wilkins (1972) states that making grammatical sentences is rather useless without the vocabulary necessary to convey the desired meaning; without grammar little is conveyed, but without vocabulary there is no meaning whatsoever. (p.97). Others like Richards (1980) as well as Krashen (1989), as cited in Maximo (2000), provide numerous arguments for the emphasis placed on vocabulary. An extensive vocabulary is necessary for mastery of any language and this is a well-known fact. Thus, in times of need, dictionaries are turned to and carried by language learners as opposed to grammar books. Conversely, vocabulary does tend to be problematic for L2 learners (Meara, 1980). Meara's research explores the difficulty presented by the open-endedness of acquisition of vocabulary. Unlike other language areas, such as

phonology and syntax, vocabulary has a more limited set of rules, making it more difficult for learners to follow prior knowledge and develop it further.

The rules of vocabulary are unclear and there is no set order for acquisition, making regulated L2 vocabulary learning complex. Oxford (1990) makes note that it is vocabulary that presents the largest challenge in acquiring a new language due to the sheer size of knowledge that must be acquired. L2 learners must face these difficulties in exam conditions as vocabulary has long been a test of mastery of language (Schmitt, 1999).

SLA (Second Language Acquisition) is seen by many as a task of memorizing by rote large expanses of vocabulary, thus relying on bilingual dictionaries as an exhaustive communicative resource. Language educators may now realise the importance of vocabulary acquisition, and they must now explore ways of teaching and acquiring this more effectively.

Nakata (2006) agreed that vocabulary acquisition necessitates continuous repetition for an "effective vocabulary learning" (p. 19). Unlike grammar, strategic time spent learning cannot be successful to the same level when it comes to vocabulary. In order to acquire each word of vocabulary, the student must be disciplined, regularly inputting the required time in order for the vocabulary to be transmitted into long term memory as a high frequency word. Nation and Waring (1997) suggest that the word frequency encountered at the current level of learning, increases the likelihood of transference to long term memory. Incorporating this into the learning environment is time consuming due to the level or repetition. Utilising a list-like structure reduces the time element by compelling students to face the word-list often enough.

According to Mehring (2005), contextualizing language acquisition is a significant part of vocabulary acquisition as it routes the learning in the meaning of the acquired vocabulary. This enables the student to use a wider spectrum of language. List-learning, also leads to fast vocabulary acquisition. It however, is not as effective as learning in context.

Yongqi Gu (2003), however, highlighted this is only one method of acquisition and that students should think meta-cognitively in order to "learn words within the context" of which they are found (p. 14). Educators can aid students in doing this, so that students can distinguish between the high and low context words. Nation (2005) explored this distinction suggesting that high frequency words are more common that they occur in everyday language with high regularity. Thus they slip easily into utilised English. By contrast, low frequency words are more specific in their root context and might appear within these specific contexts with regularity, but not within day to day speech, such as is the case with lexicon in academia.

Forming lists from these specific contexts of low frequency words enable students to acquire, use and retain the vocabulary, but this is more significant when they find themselves able to contextualize the vocabulary.

Cooperative learning, as utilised in other areas of language acquisition, can be useful in vocabulary learning. YongqiGu (2003) highlighted that acquisition of vocabulary is very focused on learner activity, and depends on their own dedication, motivation and learning style (p.2). Motivation comes from the students themselves, but a cooperative environment for learning enables them to additionally interact with their peers, learning from them. Murphey and Arao (2001) showed that within the cooperative environment learners might feel more relaxed as the mistakes of others lessens the impact of making a mistake and encourages goal-setting and learning

English can be fun. Thus, despite the learner-centered nature of vocabulary acquisition, the cooperative environment can aid in acquisition. The learning of new vocabulary is an ongoing process. New vocabulary opens the door to learning additional vocabulary that could not be accessed before and expose the student to new contexts for vocabulary acquisition.

Vocabulary is the pivotal element for L2 learners, regardless of their current academic level (Constantinescu, 2007; Nakata, 2008). Vocabulary enables educational success (Constantinescu, 2007; Morris & Cobb, 2004). Liu (1998) explored the notion that a restricted lexical knowledge might hinder university education. Folse (2006) highlights that the more extensive the vocabulary, the more a learner is able to comprehend from language they are exposed to. The importance, according to Folse (2006), must be reflected in the curriculum. Restricted vocabulary may hinder a learner in gaining other information from sources in the target language. This is why the overlooked nature of vocabulary acquisition is so detrimental (Vijayaletchumy Subramaniam, et, al 2008). However, educators are keen to develop and search for the most effective strategies to enable vocabulary acquisition (Lu, 2003).

There remains some contention on the method of effective and efficient acquisition and teaching methods (Cheung, 2007). Contextual Clues and CALL as learning methods might be utilised for higher education students.

2.6 Studies Related to Mobile Technology

Developments in technology such as wireless communication, particularly mobile phones, open up new possibilities in language acquisition (Joseph & Uther, 2006, 2009). The impact of mobile technologies can be clearly seen in language learning classrooms whether it is formal or informal learning. Therefore, the "potential of

mobile technology in language learning has gained more interest in recent years" (Chinnery, 2006).

Whilst investigations into dictionary usage have been made (e.g., Bensoussan, Sim, & Weiss, 1984; Laufer, 1990; Luppescu & Day, 1993), few studies are done on the relationship between vocabulary acquisition and dictionary usage in acquiring a second language. A study revealed that the group that used dictionaries during reading did significantly better than the group that did not; whereas, in some cases using the dictionary can inhibit vocabulary learning (Luppescu & Day, 1993). Therefore, it is crucial to explore the way learners look at mobile phones as tools in learning languages especially for comprehension and communication. Previous studies on vocabulary can be divided into with technology and without technological assistance (Zhang et al; 2011). It has been found that research is mostly focused on vocabulary acquisition by way of mnemonic devices, reading, contextualizing learning, analysing the structures and the utilization of learning strategies utilised.

Fluent communicative ability in foreign or second language fundamentally requires vocabulary learning. Wilkins (1972) proclaims "without grammar very little can be conveyed, without vocabulary nothing at all can be conveyed" (cited in Zhang, Song and Burston, 2011, p.203).

Thus, learning with the assistance of mobile technology is greatly applicable and useful for language learners. This contributes to meaningful vocabulary learning as learning process integrates social, cultural, and life contexts (Lu, 2008). Studies by Oliver and Goerke (2008), Motiwalla (2007) Pouezevara and Khan (2007) and Shudong and Higgins (2005) in (Shakarami, Khajehei & Hajhashemi, 2014, p. 100)

show that development of technology is still necessary to enhance mobile phones as educational resources.

Mobile phone is becoming one of the language learning tools being used particularly among university students. In 2015, the Malaysian Communications and Multimedia Commission conducted a survey- "The Malaysian Communications and Multimedia Commission's (MCMC) Hand Phone Users Survey 2014". The survey suggests the number of smartphone users has been increasing and continue to grow in the current year. The survey showed 53.4% of participants used a smartphone. In every two Malaysians, one of them would use a smartphone, according to statistics (TNS Malaysia Connected Consumer Study (2014) sponsored by Google). Additionally, it was shown that the smartphone in Malaysia is the most used device to get connected. The percentages of smartphone owners increased tremendously, almost by as much as 400% in 2010. From 2013 onwards, the usage of smartphones has increased further after the "Government's Youth Communication Package (YCP) provided adults aged 21-30 with a minimum income of RM3,000 and below with a rebate of RM200 to purchase a smartphone (Malaysian Communications and Multimedia Commission, 2015).

Alongside this, m-learning (mobile technologies assisted learning) has the prospective to provide EFL learners with broad knowledge on the target content, enabling self-learning flexibly utilising mobile technology (e.g., Norbrook & Scott 2003; Thornton & Houser 2003, 2004, 2005; McNicol 2004; Naismith et al. 2005; Roschelle et al. 2005; Chinnery 2006).

2.7 Mobile Phone

Mobile phone can be defined as a portable telephone that can function over a wide area. This term is applied to both mobile phones and satellite phones although mobile phones are also known as cell phones (Aspray and Kelly, 2006).

During the late 1990s mobile phone devices became more common in many countries and discussion of their impact became a matter of importance. Early research in this regard was made by those with social, cultural and media science backgrounds, and impacted more significantly and substantially on the development of later studies in this area (Oksman, 2010).

Adding on to the current literature on mobile phones, smartphones are yet a newer technology, a new generation so to speak and are already taking over the market. Smartphones are no longer simple phones, but have additional functions such as those of a computer utilising email, address books, calendars, calculators and keyboards. There has also been the advent of the autocorrect facility on these devices. Additionally, multimedia phone features including camera and voice recording are at a level where they can compete with specialised equipment. With so much new technology in our hands, and the increased connection with social media platforms including Facebook, Twitter, Instagram, WhatsApp and others, the smartphone has the potential to change language acquisition.

Substantial discussion on the "role of the mobile phone in everyday life" and its integration into the populace, particularly the younger generation is much sorted (Ling & Helmersen, 2000; Fortunati 2001; Katz &Aakhus 2002; Kasesniemi &

Rautiainen 2002; Ling 2004; Oksman & Turtiainen 2004; Ito & Matsuda 2006; Yoon 2006a–b; Höflich & Hartmann 2006).

Even though mobile phones are treated more like a communication or connecting device, in the education field it is used as a learning tool. This brings closer to what this study is looking at. Dictionary use has been a common area to explore "for the purpose of both first language (L1) and second language (L2) learning" for more than a century (Lew, 2011). This is in line with this study on the usage of mobile phone dictionary for vocabulary acquisition.

Dictionaries are a fundamental source conveying much about a word but Miller warns of the inherent lack of context that dictionaries provide (1999) (p.10). McAlpine and Myles (2003) extend and clarify this by saying that it is a tool of assistance only in terms of grammatical errors and vocabulary. Certainly, Hulstijn, Holander, and Greidenus (1996) as well as Knight (1994) and also Luppescu and Day (1993) (in Jin & Deifell, 2013) suggested that dictionary use helps in expanding L2 learners' vocabulary and reading comprehension. More importantly, it helps students to form meaning connection.

From sociocultural theoretical perspective (Lantolf & Thorne, 2006; Vygotsky, 1978), learners of a second language have their development shift from being focused on the object used for acquisition to being other-regulated. Thus, this development is influenced and controlled by other language learners and users via interaction and finally to being self-regulated. Hence, the learner is able to use language to their own means. At the same time, they are also able to achieve social and personal goals. As such, skilful use of online dictionaries is an aspect of a "learners' self-regulation and

consequently of successful language development" (Elola, Rodríguez García, & Winfrey, 2008).

A "learners' use of online dictionaries" intended for language acquisition to enhance literacy competence has been shown in a number of studies. These studies particularly investigated how the device is used. According to Godwin-Jones (2011), not many studies from the perspective of FL learners were done "to report the effectiveness of online dictionaries in independent learning". An appropriate understanding on students' current issues are needed for teachers to enhance the use of the tools among the students.

This is a digitally dominated era which exemplifies technology including the mobile phone. The mobile phone should be utilised to make learning easy and flexible and not dependent on formal English learning classes. However, this might be difficult to achieve, albeit not impossible. This can be supported by Knowles (1950) whose studies focused on informal learning of languages and emphasised the unstructured nature, out of class environment, the learner-oriented informal study (Marsick and Watkins, 1990; Lightbrown and Spada, 2001; Rogers, 2004). As such, it is thought that recent mobile technological developments could lead to a new age of informal language learning presenting multiple opportunities.

This study looked into the process of vocabulary acquisition in an ESL classroom. So, the process of identifying the ways learners acquire the vocabularies as well as their perception towards mobile phone as a language acquisition device were further looked into in this research. This also led the researcher to identify the affordances and constraints in using mobile phone for vocabulary acquisition.

2.8 Mobile Learning

Mobile learning looks into "the acquisition of knowledge" using certain devices which in this study is through mobile phones. Besides that, mobile learning or commonly known as m-learning can be easily defined as "any educational provision where the sole or dominant technologies are handheld or palmtop devices" (Traxler, 2005 in Traxler, 2009). According to Trifanova & Ronchetti (2003) a mobile device is "any device that is small, autonomous and unobtrusive enough to accompany us in every moment". In line with the growth of mobile learning (Sharples, 2006), mobility of technology, learning and learner are the three aspects of mobility (El-Hussein & Cronje, 2010).

Mobility of technology focuses on examining the possibility of using portable and wireless devices such as mobile phones, laptops, and tablets for educational purposes. The focus of mobility on learning is on the extensive "use of mobile devices" for learning "outside the classroom". The third aspect focuses on "the mobility of the learner, the design or the appropriation of learning spaces and on informal learning and lifelong learning" (Pachler, Bachmair, & Cook, 2010, p. 41). It can be said that of the range of mobile learning tools, youth of today popularise mobile phones and the fast development of this technology means it is already and has further potential as a tool in education and mobile learning. Klopfer and Squire (2008) describe the affordances of mobile phones as:

- Portability – the ability to manoeuvre multiple locations with ease
- Social interactivity – data-transferring abilities, plus communicative technology
- Context sensitivity – data mining for location, time and environment and its application to both real and simulated data

- Connectivity – these devices are able to interact with other devices and on common networks to create a shared environment
- Individuality – adaptable in its scaffolding of the learner's individual experience (cited in Squire & Dikkers, 2012, p. 447).

Research shows the mobile phone to be a useful learning tool, amplifying students' personal and academic interest (e.g. Squire & Dikkers, 2012). Those criteria proved that mobile phone is the right choice of learning tool to be used in this study.

Research on mobile learning were conducted at different levels (Sandberg, et.al, 2011). On a larger scale, research focuses on incorporation of this increasingly mobile population. "At the macro level, research focuses on how society and its institutions can support an increasingly mobile population", (Sandberg, et.al, 2011).

On a smaller level, research investigates clarification and categorization for mobile learning to be efficient and effective. In between these two levels, research looks into how mobile learning can interact and support other learning strategies and technologies already in place and utilised in the learning environment.

This interest in mobile learning is two-fold. Firstly, the wide-spread nature of mobile technology must be considered as the increasing capacity of these technologies and the accessible platforms from them are of importance. This development allows us to extend learning environments and increase exposure "in accordance with constructivist principles, in which the social context and self-management of learners are central", (Timkoba, 2012). This is the combination of

different contexts and learning medium are in par with the "dual-channel hypothesis" (Mayer, 2003). The proposition is that people are capable of processing information from various mediums in separate, but parallel channels, enabling learning from different sources concurrently. This allows a richer experience for creating memory structures.

Learning environments can exploit this, particularly advanced portable devices. Secondly, the consideration of the growing consensus that informal learning is just as significant as formal learning. It relays "constructivist principle of authenticity", "allowing learners to be engaged in activities meaningful to them" (Mayer, 2003; Sharples, 2000). In order to achieve this unique meaningfulness, there are two methods. One is by linking new knowledge to that previously gained. The other is by contextualizing learning within that moment in time.

Fransen (2008) "presents an overview of the potential advantages and disadvantages of mobile learning". The inherent flexibility of the learning is obviously the main advantage. Norbrook and Scott (2003) believe that immediate availability of the mobile device makes learning more attractive. Additionally, the adaptability increases learning opportunities by fitting the current environment and context. Fransen (2008) highlights the lack of research, as yet, "on the effectiveness of mobile learning". Fransen asks if learning is actually achievable within the mobile context and if there is a readiness to learn by this method. Sharples, Taylor, and Vavoula (2007) elaborate and observe that most studies in this nature are of questionnaire analysis.

The suitability of this method is called into question as it is not the most methodologically sound and results in common anomalies thereby hindering the impact of any research. This means that the little research available is none too reliable.

Game-based learning is a key trend and this enables fun and interactive learning which engages many users. The serious goal of the application is often overlooked by the learner, making language acquisition more natural and fun (Susi, Johannesson, & Backlund, 2007). The distinguishing factor between device-centered play and games played with the teacher in the school environment is the more egocentric focus of device-enabled play; control is given more directly to the learner (Stapleton, 2004). Examining these games, however, shows they "are mostly text-based" (Kukulska-Hulme & Shield, 2008) and use an "intelligent tutoring model" (Bull, 1994; Chen & Chung, 2008; Collins, 2005; Thornton & Houser, 2005). These are more suited to adult learners, thus overlooking younger language learners.

Studies on these applications show mobile phones to be a vehicle of language acquisition and learning; students recognise the flexibility of learning and the more effective usage of time. Yet, most applications of this sort merely reinforce already existing knowledge learned by other means i.e. school or e-learning. Hence, it should be easily recognizable and contextualized, rather than sporadic in nature. Despite the multi-faceted nature of mobile learning opportunities and applications i.e. the use of the internet or app stores, the utility of such commodities in the formal educational environment is limited due to the lack of representational content, format and methods that would be of use to these institutions.

2.9 Theories of Mobile Learning

The communities surrounding learning of a mobile nature might still feel in need of both theory and definition, for instance, "because of the ability of theory to define a research agenda or produce useful predictions and generalizations" (Traxler, 2009).The work of Kuhn (1962) on intellectual change structure provides insight into how theory can be utilised regarding research (though it is still open to criticism).

'Conventional' e-learning has increased in its recognised credibility. A good instance would be that shown by Laurillard (2002) and Salmon (2000). Yet, research to underpin any theories relating to mobile learning are not enough just yet. Current theories of 'conventional' e-learning are based upon stable and established platforms of learning technologies, such as the operating systems, keyboard structure and internet platforms. These platforms enable theorizing about 'conventional' e-learning to remain consistent, homogeneous and transparent – a common understanding of these forms and structures as well as a common familiarity means that the technology itself no longer hinders investigation.

By contrast, mobile learning theory is more challenging because there are more variable and volatile in nature, meaning there are inconsistencies. To simplify, we can split it into three categories: importing current conventions of e-learning and be concerned with the nature of its transferability; develop a new theory, but have the validity of such a theory called into question by techniques; and/or utilise more generalized theory and be concerned that it is too broad to represent the intricacies involved. With respect to the first option, Diana Laurillard's (2007) "current recognition of the impact of mobility and mobile technologies on the Conversational Framework" discusses the potential of increased interaction between environment and

learner. By removing the classroom environment and teacher, it makes it difficult to provide tasks and feedback, as per conventional learning. This is in line with more general ideas and discussions regarding the Conversational framework. This supports a stricter and thorough approach to identifying "component learning activities" in these flexible locations. Besides, students are guided only by computer technologies and their environment and potentially peer support. As such, mobile learning presents a challenge to accepted e-learning theory.

Students today learn language via practice within the community of learners and through their own networks and tasking in a place where the knowledge is being supplemented and provided (Siemens, 2005). Education and learning are part of this and a cultural aspect of history and it is within these constraints that learners develop. Josie Taylor (2006) approaches it differently and questions whether this learning on the move and flexibly via such devices can truly be accessed anywhere, anytime and anyhow.

The audience for such an account preferred the idea of learning simply existing in the mobile age, as opposed to being mobile itself. As nothing stays still, it would make a definition of mobile learning more confusing. Everything is in continual motion and progress and as such learning strategies are experiencing significant change.

From the above discussion on mobile learning it can be seen that this study is very much related to the current learning technology. It also shows that this study serves its significance to move at the same pace of the current learning environment, learning tools or devices and the technology.

2.10 Studies Related to Mobile Learning

In the research Adaptive Kanji learning using mobile-based email by Li, M., Ogata, H., Hashimoto, S., & Yano, Y. (2009), the value of adaptability in learning was examined for Japanese Kanji characters using email. Accordingly, the learning content was adjusted to individual interests, proficiency and habits such as the location and time of study. This was applied to the experimental group. A control group was used receiving traditional MESLL type of lessons of a more rigid structure with fixed location, time and limited adaptability for proficiency and strategy of the individual. In each of these two groups, five individuals were observed, all being non-native Japanese speakers, but learners of the language. Testing occurred prior to the learning environments outlined above and after the learning. The research utilised a questionnaire to measure attitude toward the specified strategy. Results suggested that the experimental group liked the strategy and found it more useful for learning characters.

Similarly, Levy and Kennedy (2005) looked into Italian learning. The lessons were delivered via text message to the students in Australia. This was done to reinforce vocabulary learned, quizzes and follow up questions given in class. A similar study was conducted later in 2008 with higher content value, but lower frequency, was noted to improve results. The results revealed that the user preferences fluctuated. Therefore individual needs impacted results.

Thornton and Houser (2005) conducted research into mobile phone usage to teach English at a Japanese university by contrasting internet and text-communication based learning. The results were indicative of a correlation between SMS learning and the rate of retention for vocabulary. The conclusion indicated that

SMS lessons were more effective as they were more active than email. This resulted in more motivation and more frequent study, hence better retention of the subject matter. No quantitative analysis was made available.

Chen, Hsieh and Kinshuk (2008) provided a similar study and experimented with four groups; words only, words with annotations in written form, words with picture annotations and words with both of the previous two annotations (dubbed "Learning Content Representation" types). Involving 160 students of groups of 40 each, the study was based on short-term memory capacity. It addressed and examined adaptation of content for these four groups. All participants received 24 identical questions. The results showed that pictorial learning helps students who have higher visual ability and vice versa. Furthermore, it was seen that the validity of both Dual Coding and Cognitive Load Theories, that is, using more than one modality is more effective than the use of a single modality.

2.11 Mobile Dictionary

Over time, many dictionaries in many languages have been created and brought into use by people. As for today, thanks to advancing technology, dictionaries based on computer systems such as electronic, digital and mobile have emerged and positioned themselves as a source of information. Particularly, mobile dictionaries are drawing more attention since they can be used via mobile phones. Doing researches and studies on mobile dictionary should be the task of educators to improve the qualities of the mobile dictionaries which are becoming indispensable source in vocabulary teaching.

Previous studies conducted did contribute to mobile dictionaries but it was brief and not updated. Since the late 20th century, parallel to the recent developments in technology, a radical change has occurred in the education realm and thanks to the information technologies, new facilities and opportunities have appeared. There is no doubt that mobile devices come first among other technological facilities.

KukulskaHulme, Shield, (2008) stated that mobile learning enables new ways of learning, emphasizing continuity and spontaneity of excess of interaction across different context. According to Sharples (2006), mobile learning is "any sort of learning that happens when a learner is not at a fix, pre-determine location, or learning that happens when the learner takes advantage of learning opportunities offered by mobile technologies. Small devices like mobile media players, mobile phones and tablets contribute to the mobile learning (Rahimia & Mirib 2014:1470).

Recent technological advancements have seen books and notepads compressed into phones and tablets. Large, unfriendly and immobile dictionaries now are accessible with the touch of a button and fit in our pocket. And mobile dictionaries offer the additional advantage of multimedia learning, enabling students to hear correct pronunciation rather than see or attempt phonetic translation. Additionally, suitability to update regularly, easy access, portability and being free of charge are attributes of mobile device. This can be counted as factors that differentiate mobile or online dictionaries from those printed dictionaries.

Mobile dictionaries with their above-mentioned characteristics are important source for vocabulary teaching as well because with their audio-visual contents. Mobile dictionaries provide great opportunities in efficient and permanent

vocabulary teaching. Doğan (2014:90) points out that it is necessary to make use of visual things in vocabulary teaching and says: “showing pictures and photographs during studies is more effective than just noting down the words and simply explaining them. Employing visual materials means solidification and this should be considered at all stages, notably at beginner (A1, A2) level, of language teaching”.

Demirel (2004) argues that a good vocabulary lesson ensures the person to properly use the recently learned words in each realm of a language and counts some of these techniques as follows:

1. Real objects are shown related to the word.
2. Drawing shapes, images and sketches onto the blackboard to explain words.
3. Pictures or paintings, posters and banners taking from materials such as newspapers and magazines are shown.
4. Visual methods are used. (Flash cards, Posters, Interactive CD‟s, Videos, Short Films and so on)
5. Clarification is made by using formerly thought words.
6. Synonyms and antonyms of the words are given.
7. The word is separated if it is a compound in order to explain (qte. BüyükikizveHasırcı 2013:150).

When we look at the structures of mobile dictionaries, it is seen that the above sorted techniques can be successfully used with these dictionaries. For instance, real objects, images, pictures and videos can be presented through them. Furthermore, improving qualifications such as antonyms and synonyms are also among the ability of these dictionaries. A number of positive results have also been received from studies with respect to this capacity. While Browne and Culligan (2008) received

positive results from vocabulary teaching by using flash cards via mobile phones, Thornton and Houser (2005) got successful results from activities via them for English idioms. Students found these activities not only positive but also beneficial and entertaining at the same time (Stockwell, 2010:96). In this study, in line with the students' remarks, the limitations and advantages of these dictionaries and how efficiently they are employed in classes were identified.

2.12 Theoretical Framework

The theoretical framework used in this study refers to Luppescu and Day's study on Reading, Dictionaries and Vocabulary Learning (1993) and Zhang's Reexamining the Effectiveness of Vocabulary Learning via Mobile Phones (2011). Luppescu and Day's (1993) research was in line with vocabulary and meaning inferential from context while reading. The study investigated if the use of hardcopy dictionary has effect on vocabulary acquisition through reading comprehension. Luppescu and Day's (1993) framework for vocabulary acquisition through dictionary usage was referred in this study because it integrated reading comprehension and the use of contextual clues in vocabulary acquisition. The study used vocabulary and reading comprehension task in the tests to examine the effectiveness of dictionary usage in vocabulary acquisition. Therefore, the method of data collection was adapted and used in the pre and post-tests. The tests were adapted and used as a guide to match this study's participants' proficiency level. Since the participants of this study differ from Luppescu and Day's study, the vocabulary choices and difficulty of reading comprehension text were adapted and changed to match the participants' level of proficiency.

Zhang (2011) looked into vocabulary acquisition via mobile phone. His study focused on vocabulary acquisition through short text messages (SMS) and the methods of conducting pre-test without mobile phone and post-test with mobile phone were adapted and used as a framework for this study. Although, the current study did not look into short text messages (SMS), it still contributed to vocabulary acquisition through mobile phone. Therefore, it was used as a framework in this study.

These two studies focused on vocabulary acquisition on two different aspects which were reading and mobile phone usage. Therefore, in this study both the reading and vocabulary acquisition were merged through mobile technology. The combinations of these two studies were significant to this research because this study combines both mobile technology and vocabulary acquisition. This framework helps to discuss the current use of mobile phones in vocabulary acquisition in an English as a second language classroom. Besides, the range of research into the mobile phone usage for language learning has been diverse in the area of teaching but not in the area of acquisition. Thus, these two studies were combined to achieve the objectives of this study, which are to identify if learners exhibit better understanding of vocabulary through the use of mobile phones, and to understand learners' perceptions on learning vocabulary with the use of mobile phones.

Not many studies on the usage of mobile phones in language learning have been conducted on EFL students in an ESL environment particularly on vocabulary acquisition. Most of the studies only looked at certain features or applications of the mobile phones. A study by Abdulhafeth A. Khrisat & Salameh Saleem Mahmoud (2013), for example investigated the foundation-year students' attitudes towards

using mobile phones in the English as a foreign language (EFL) classroom. They found that students had positive attitudes toward using mobile phones in the classroom and recommended training students and teachers on the academic use of mobile phones. Another study by Alamer (2015) looked into the role of EFL learners' motivation in mobile language learning. His study revealed the advantages and challenges of using mobile devices in the language learning context and the extent of learners' perception and engagement towards mobile language learning (MLL).

Another study conducted by Arlina Ahmad Zaki & Melor Md Yunus (2015) investigated the potential of mobile learning in teaching English as a Second Language academic writing. This study focused on academic writing through mobile integrated learning. Several writing approaches which complements the pedagogical advantages in mobile devices were used in this study.

From the studies above, it is obvious that most of the research conducted on EFL learners were on certain features or applications of the mobile phones and the use of mobile phones as a tool of learning. This study, on the other hand, looked at vocabulary acquisition through the use of mobile phone dictionary application.

2.13 Conclusion

This chapter discussed the definitions of mobile learning, vocabulary acquisition, English as a second language, studies related to mobile dictionaries, mobile phones, mobile theories and the theoretical framework. This chapter also briefly elaborated the language acquisition theories related to the study of mobile phone usage for vocabulary acquisition among second language learners of English. Related previous studies were also discussed in this chapter. The discussion in this

chapter also included review of related mobile technology studies that were done in ESL as well as in EFL context. This chapter is then concluded with a summary.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This section of the dissertation shows the methodologies and approaches involved in probing the usage of mobile phones by foreign language learners who are learning English in an ESL context. This chapter outlines the information regarding the participants of this study, the procedures engaged in order to get hold of the samples and the instruments that were chosen to be used throughout the data gathering phase. Alongside that, the research design, type of data collected, data analysis methods, ethical considerations and limitation of the research are also explained here.

A 'mixed method approach' is applied in this study. The quantitative and qualitative methods were combined in collecting the data. The interview acts as the triangulation process to obtain more information and insights to answer the research questions. To obtain the necessary corpus, four methods were used, (1) tests (fill in the blanks vocabulary task and reading comprehension), (2) essays, (3) survey questionnaires and (4) interviews.

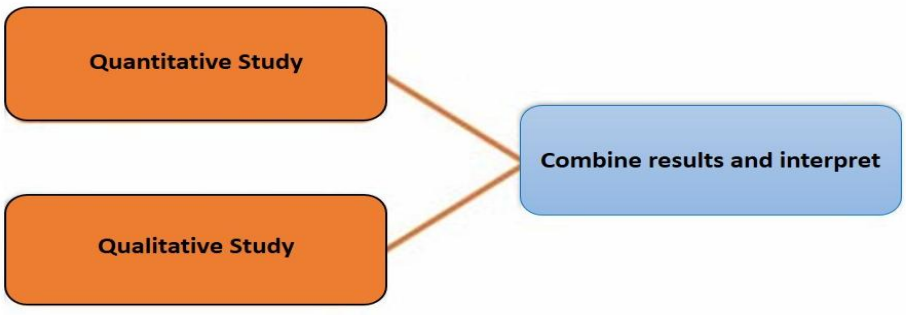

Figure 3.1: A mixed-method approach

Source: Adapted from Creswell and Plano Clark, 2006

(Jack R. Fraenkel and Norman E. Wallen, 2010)

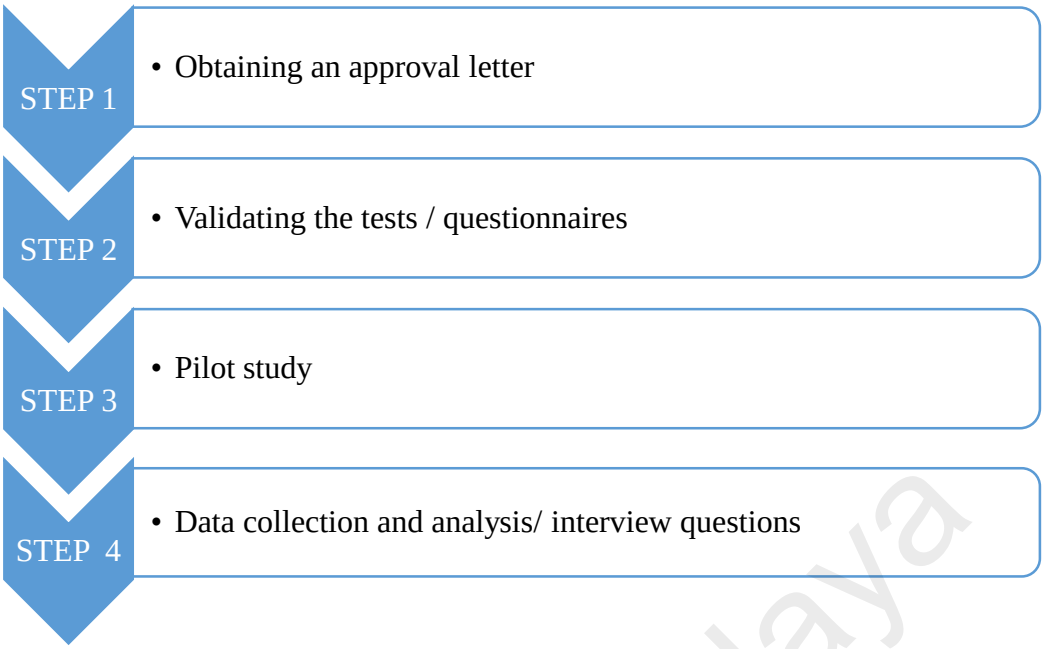

Figure 3.2: Research design

3.2 Subjects

3.2.1 Learners

The participants of this research were 30 intermediate level students, aged 18-25 years old from Middle East and China who were currently learning English in an 'Intensive English Program' at Segi University, Kota Damansara. Their L1 is Arabic and Chinese. Students were placed in the intermediate level based on their Cambridge English Placement Test scores. These learners are from nations in which the English language is conversed as a foreign language. Therefore they are foreign language learners learning English in an ESL context in Malaysia.

The convenience sampling technique which is one of the 'non-probability sampling' techniques was used in selecting the participants of this study (Dörnyei, 2007). This technique was used not due to limited time or resources. However, it was used because the respondents or learners were available throughout the study and they were able to

provide reliable and valid findings to this study. 30 students were selected to participate in this study. The number selected represent the entire population of the intermediate level IEP students in Segi University. This was to maintain the quality and effectiveness of this study.

Information pertaining to the materials they are exposed to, time spent on their social interaction and the context in which English is used was collected through survey questionnaires. Students signed the consent forms before participating in the research to address ethical issues.

3.2.2 Intensive English Program (IEP)

The participants who are involved in this study were selected from the Intensive English Program. In other words, this program serves as medium in selecting the participants for this study. The Intensive English Program (IEP) in the private universities particularly in Segi University is an English program offered to international students who will be furthering their studies in Foundation, Bachelors, Masters or Ph.D. studies at the particular university. The duration of the Intensive English Program is six months and it is divided into 6 different levels: Elementary 1, Elementary 2, Intermediate 1, Intermediate 2, Upper Intermediate 1 and Upper Intermediate 2. The students taking this course come from different countries such as China, Mongolia, Vietnam, Saudi Arabia, Libya, Palestine, Yemen, Syria, Sudan, Guinea, Djibouti, Sri Lanka, Russia, Pakistan, Kazakhstan, Tajikistan, Kyrgyzstan and Uzbekistan. From all the countries listed, China and the Middle East contribute the largest number of students for each intake. Each level is learned for one month.

The enrollment of students into this IEP program is determined by Cambridge Online English Placement Test (EPT) that every international student has to take. The EPT is a standardized Cambridge online test which consists of two parts: Listening and Reading. The score obtained by each student in the test will be used as a benchmark to place them accordingly into the respective level. The scores and grading are classified into 6 categories: 0-7 (Elementary 1), 8-15 (Elementary 2), 16-23 (Intermediate 1), 24-32 (Intermediate 2), 33-39 (Upper Intermediate 1) 40-48 (Upper Intermediate 2) 49-56 (Advanced 1) 57-64 (Advanced 2), and 65 above (Exempted). Since the university does not offer classes for advanced level, those who scored 60 and above will be exempted from the Intensive English Program while those who scored below 60 will be assigned accordingly to each respective level based on their EPT scores.

3.2.3 Teachers

Five English teachers who are teaching the Intensive English Program with minimum of three years teaching experience were selected for the interview session. These teachers are Malaysians and they are teaching particularly the L1 Arabic and Chinese speakers. They were interviewed to acquire data on factors affecting students' vocabulary and the practice of mobile phone usage in an ESL teaching space. The teachers' responses during the interview were important as the responses helped in triangulating the raw data collected through the survey questionnaire and tests.

Teachers with a minimum of three years of teaching practice were selected to be interviewed in this study because they can provide a reliable and valid answers and explain in-depth the challenges or difficulties faced by the students in vocabulary acquisition. Adding to that, experienced teachers could relate to learners problems with

language, describe the seriousness of this problem and provide their perspectives towards mobile usage in an ESL classroom. Teachers signed the consent forms before interview.

3.3 Instruments

3.3.1 Test

The pre-test and post-tests were conducted to monitor students' development and knowledge acquisition throughout the course and to administer a 'test of entry behavior or learning' which helps to conclude whether the expected requirements to a program have been attained or not. Besides, it was also handy in defining where 'skill and knowledge' insufficiencies occur.

The tests underwent a pilot study with 10 Intermediate students learning English who did not participate in this research, to avoid maturation. Some amendments were made on choice of words after the pilot study to match students' proficiency level

3.3.1.1 Pre-Test

A pre-test (See Appendix A) was conducted with the 30 students. The pre-test was without using mobile phones. Students filled in the blanks with vocabulary related to vacation based on their syllabus. Instructions were given accordingly.

Then, students completed a reading comprehension task with the same vocabulary as given in the fill in the blanks task. Learners read the reading comprehension passage and matched the words/vocabularies to the definitions. The selected vocabularies were bolded in the reading comprehension passage. This was to see if the learners were able to comprehend the meaning of the vocabulary correctly by using the contextual clues. Tests

were adapted from the McGraw Hill's Takeaway 2 English textbook. Students were given 45 minutes to complete the test.

3.3.1.2 Post-Test

A post-test (See Appendix B) was conducted with the same 30 students on the next day. Post-test was with mobile phones. Students filled in the blanks with vocabulary related to vacation based on their syllabus. Instructions were given accordingly. Students were permitted to use their mobiles to look for the meaning of words during the post-tests only. A section of short vocabulary task to define words was added in the post test to make sure students use the mobile phone during the test. Students were required to use the Oxford free download mobile dictionary in completing the post test. Therefore, it is made standardized that all students used the same software. The vocabulary task gave learners a brief knowledge on meaning of words.

Then, students completed a reading comprehension task with the same vocabulary as in the fill in the blanks task. Learners read the reading comprehension passage and matched the words/vocabularies to the definitions. The selected vocabularies were bolded in the reading comprehension passage. This was to see if the mobile phone helped the learners in the vocabulary acquisition and to know how learners perceive the mobile platform for vocabulary acquisition. Tests were adapted from the McGraw Hill's Takeaway 2 English textbook. Students were given 45 minutes to complete the test.

3.3.1.3 Oxford Free Download Dictionary Application

The Oxford Dictionary of English App by the Oxford University Press was used in this study to make sure all students used the same dictionary on their mobile phones. This application has the innovative search and linguistic tools features and can be downloaded on the phones. Besides, this dictionary is an English to English dictionary where students have to learn the meaning in English and not in other languages. It has the most complete content of the English language the world over (Oxford Dictionary of English, 2016). It has the newest collection of "vocabulary, with over 350,000 words, phrases and meanings", (Oxford Dictionary of English, 2016).The content of the dictionary application is reliable and trustworthy as it is based on research by the Oxford English Corpus (2016). Moreover it is an ideal mobile dictionary "for professionals, students, and academics, as well as anyone who needs a comprehensive and authoritative dictionary of current English at work or at home". (Oxford Dictionary of English, 2016)

3.3.2 Essay

Students were given an essay writing task (See Appendix C) on the topic of vacation. This essay writing task was conducted to see if the students were able to use those vocabularies in context. This task was conducted a fortnightly subsequent to the post test in order to see if the usage of mobile phone was effective in students' vocabulary acquisition process. Students were given 45 minutes to write their essays. The essays were analyzed to examine the vocabularies usage in the sentences produced by the students. Students have been taught the strategies to write a descriptive essay in previous lessons; writing travel blogs, describing vacation, a special day, favourite sports and hobby and they were required to do several practices. These helped to build the students' confidence and to help them write correctly. A list of vocabularies was given to the students and they

have to use all the vocabularies in their essays. This helped the researcher to see if the vocabularies are used correctly. Students were not allowed to handle any mobile phones throughout the essay writing task. The essay question was taken from the final examination papers set by Centre for Languages lecturers at Segi University and it is valid as it has been moderated by lecturers and used with other groups of students of similar proficiency.

Table 3.1: The Data Collection Process

Week	Step	Description	Time
Week 1 (Day 1)	Pre-test	Hand out and administer the pre-test, to measure participants' vocabulary capability. *Students were not allowed to use the mobile phones	45 minutes
Week 1 (Day 2)	Preparation	Instructions were given on how to use the Oxford for English dictionary on mobile phones. A few examples and trial were done with different words.	40 minutes
	Post-test	Hand out and administer the post-test to measure participants' vocabulary capability again. Students used the Oxford Dictionary mobile application dictionary during the post-test. *Post-test was with the usage of mobile phone	45 minutes
Week 3	Essay Writing Task	An essay writing task was conducted to see the effectiveness of mobile phone usage in vocabulary acquisition. The same vocabulary from the tests were given.	45 minutes

3.3.3 Questionnaires

Questionnaires (See Appendix E) were distributed to the 30 students to find out students' problem in acquiring English vocabularies and to explore their preference towards using mobile phones in vocabulary acquisition. The questionnaire could also help in considering other factors that could add more significance to the findings. Students were provided enough time to respond to the fifteen items. The questionnaires based on a '5-point Likert scale' to measure the feedback from Strongly agree to Strongly disagree. The raw data from questionnaire responses were analyzed using the SPSS 22.0 software. Questionnaires were adapted from (Walters and Bozkurt, 2009, J. F. Fazeena et al., 2012, Hayta, 2014 and Chen, 2013).

3.3.3.1 Pilot Test for Survey Questionnaire

Prior to the questionnaires being given to the participants in this study, a pilot test was conducted only for the questionnaire items. It is used to identify students' preferences towards the use of mobile phones in vocabulary acquisition. Pilot testing refers to a test conducted in order to find out if the survey will work in the "real world" by trying it out first on a few people (Interview, 2011). So, before the questionnaire was distributed to the respondents, 10 students who were in intermediate level were selected randomly to do the questionnaire. These 10 students did not participate in the study. The questionnaire consist of 15 items with 5-point Likert scale that ranged from Strongly Disagree (1) to Strongly Agree (5) was administered to the students.

Then, a reliability assessment was done on the figures obtained from the pilot study. The reliability analysis was done on SPSS using Cronbach's Alpha. Cronbach's Alpha can be well-defined as "the most common form of internal consistency reliability coefficient and it is most commonly used to estimate internal consistency of attitude scale

items which have a five-response option" (Parmjit, Puzziawati Abdul Ghani, & Hoon, 2009, p. 227). "A reliability analysis was employed in the pilot test as it can be used to determine the extent to which items are related to one another in a questionnaire, obtain an overall index of the internal consistency of the construct (scale) as a whole, and identify problematic items that should be omitted or edited" (Parmjit et al., 2009, p. 228).

Table 3.2: Cronbach's Alpha Internal Consistency

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

The above table 3.2 shows the Cronbach's Alpha internal consistency. A reliability test was done on the questionnaire items based on the above Cronbach's Alpha to test the internal consistency of the questionnaire. The result obtained from the Cronbach's Alpha coefficient test conducted on the pilot study showed that the reliability of the items in the questionnaire is .902. Hence, it can be concluded that the items have a strong reliability. Since the Cronbach's Alpha coefficient test showed strong reliability on the items in the questionnaire, no changes were made to the questionnaire when it was administered to the respondents in the study.

Students who did the pilot test were requested to provide commentaries about the questions posed in the said questionnaire. All of the 10 students agreed that the items in

the questionnaire can be comprehended. They also asked on the usage of mobile phones and vocabulary acquisition in learning English as a second language. They also commented that they understood all the items in the questionnaire perfectly. The table below shows the result of Cronbach's Alpha that was done to test the questionnaire's reliability for the pilot study.

Table 3.3: Cronbach's Alpha Coefficient for Pilot Study

No. of items	Cronbach's Alpha coefficient test result
10	.902

3.3.4 Interviews

Semi-structured interviews (See Appendix F) were done with the five English language teachers teaching the foreign students. Subsequent follow-up interviews were conducted to gain perspectives on vocabulary acquisition. These in-depth interviews identified if there is an influence from the students' first language. The interview questions were adapted from (Walters and Bozkurt, 2009 and Hayta, 2014).Ethical issues were taken into consideration by obtaining the consent of the teachers and by ensuring their confidentiality. Teachers signed a consent form to address the ethical issues. To ensure confidentiality, teachers' names and profiles were kept private and confidential.

3.4 Conclusion

This chapter presents the research design and methodology employed to conduct the study. This mixed-method study employs correlational design. The design, population and sampling, instrumentations, reliability and validity of instruments, data collection procedures for each instrument, and data analysis are elaborated in this chapter.

CHAPTER 4: RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter constitutes the analytical results of the current research. The findings presented in this chapter aim to look into the effectiveness of mobile phone dictionary application usage among students from China and the Middle East who studied intensive English in a private university in Kota Damansara, Selangor. Data were gathered using pre and post-tests, essay writings, questionnaires and semi-structured interview questions. This chapter has two main parts. The first part offers the descriptive analysis established by the demographic data obtained from the participants.

The chapter continues with a presentation on the quantitative results of the analyses of the pre and post-test scores; essays and data collected from questionnaires on mobile phone preferences for English vocabulary acquisition. This chapter also discusses the qualitative results of the findings collected from the semi-structured interview responses. 5 English language teachers teaching the Intensive English Program were interviewed. The findings are described and presented in line with the research objectives and research questions set at the beginning of the research. The research questions are:

1. How do the second language learners use the mobile phone for vocabulary acquisition?
2. What are the learners' perceptions on learning vocabulary using mobile phones?

4.2 Results of the Discussion

4.2.1 Demographic Information

The demographic information of the participants who responded to the questionnaires are presented as follows:

Table 4.1 Gender of Participants

Gender	Frequency	Percent
Male	16	53.3
Female	14	46.7
Total	30	100.0

The above Table 4.1 shows that majority of the respondents are male that is 16 (53.3%) people. This is followed by female which is 14 (46.7%) people.

Table 4.2: Age of Participants

Age (years old)	Frequency	Percent
18-20	16	53.3
21-23	9	30.0
24-25	5	16.7
Total	30	100.0

From Table 4.2 above, it can be concluded that majority of the participants were from 18 to 20 years old as there were 16 students, 53.3% respectively. This is followed by participants aged from 21-23 with 9 students, 33.4% respectively, while there are only 5 participants aged from 24-25, 16.7% respectively.

Table 4.3 Nationality of Participants

Nationality	Frequency	Percent
Chinese	16	53.3
Middle East	14	46.7
Total	30	100.0

Table 4.3 shows the nationality of participants. 16 (53.3%) participants' nationality is Chinese and 14 (46.7%) are the Middle East.

4.2.2 Background Information and Participants Mobile Usage

A brief background information of the participants' mobile phone usage was obtained through the demographic survey questionnaire.

Figure 4.1 shows how often the students use mobile phone in their daily life. Students given the range to rate 1 for not very often to 5 which is on daily basis.

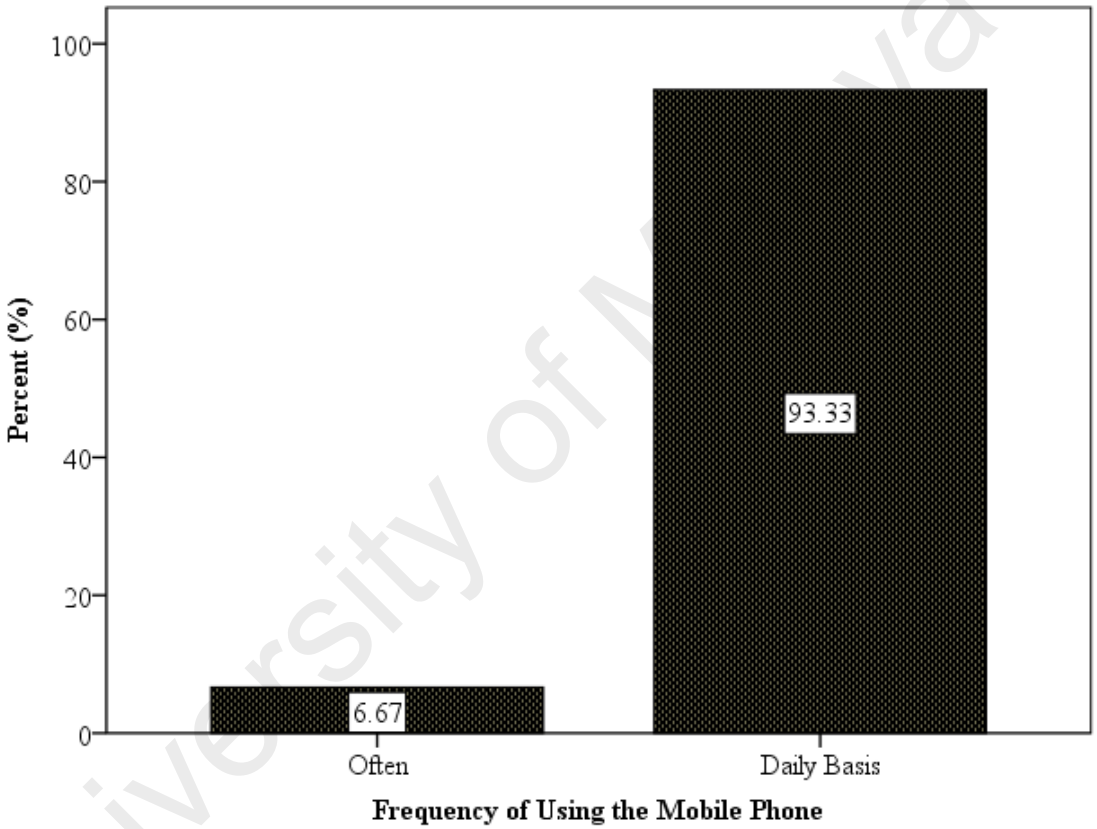

Figure 4.1: The Participants' Frequency of Using Mobile Phone

Figure 4.1 shows how often the students use mobile phone in their daily life. Students were given the range to rate 1 for not very often to 5 which is on daily basis. Based on the findings, 93.33% of the participants responded that they use mobile phone daily and 6.67% of the participants responded often. This shows that majority of the participants use their phone every day.

Figure 4.2 shows participants' activities with mobile phone in learning English.

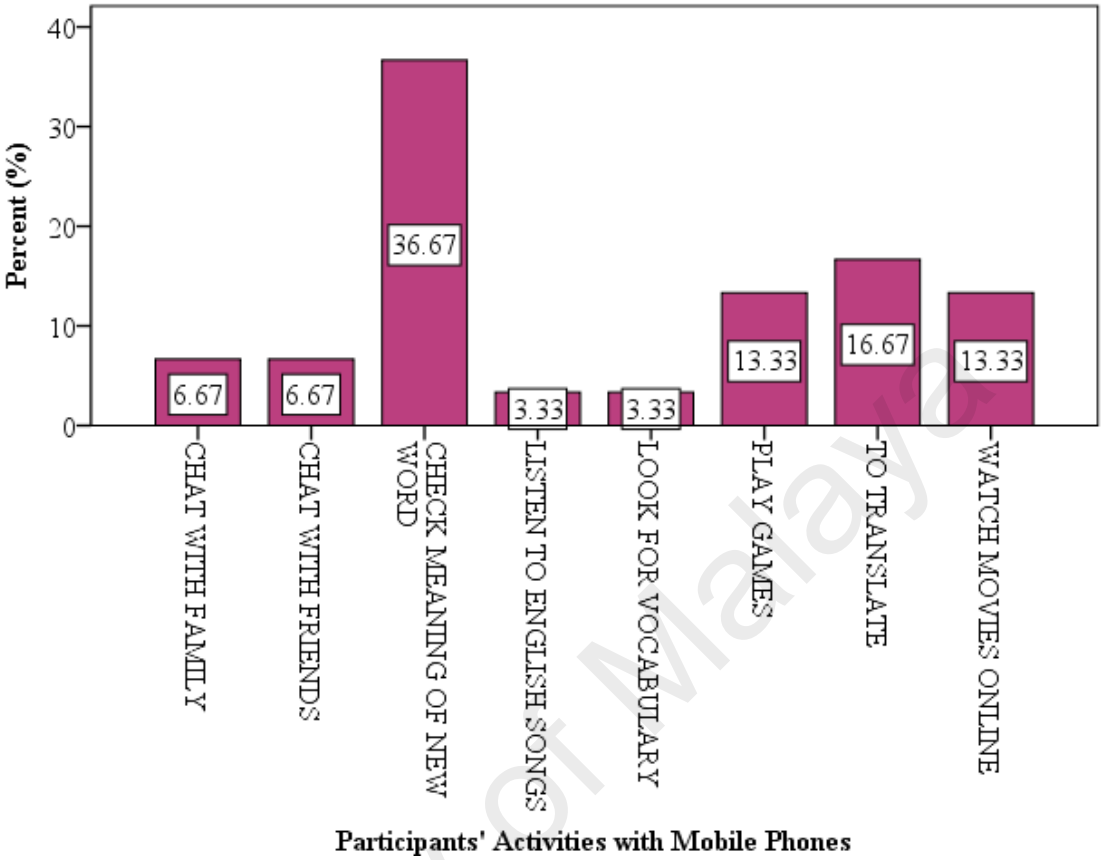

Figure 4.2: Participants' Activities with Mobile Phones

The information in the figure above are feedback from if they have used mobile phone to learn English. If yes, students state the activity that they generally do. All the participants agreed that they use mobile phone (Smartphone) to learn English. 36.67 % responded that they use it to check the meanings of new words. 16.67 % use mobile phone to translate. 13.33% of participants use their phones to watch movies online and play games. 6.67% responded that they use their phones to chat with their family and friends. 3.33% of participants listen to music and another 3.33% responded that they look up for vocabulary using their mobile phones.

Figure 4.3 shows participants' responses on mobile technology is useful for learning English.

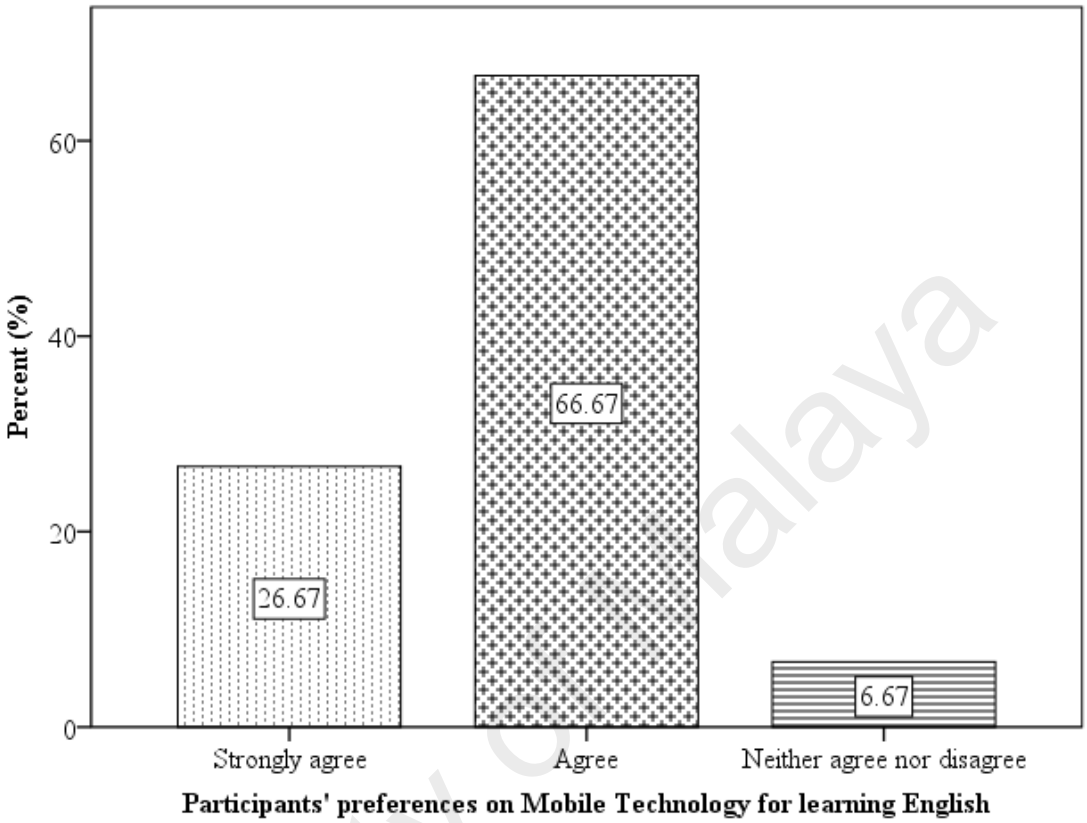

Figure 4.3: Participants' Preferences for Mobile Technology for Learning English

The responses from this item was to see students' perceptions towards mobile technology. The responses show students' preferences on usefulness of mobile technology in learning English. 66.67 % agreed and 26.57% strongly agreed that mobile technology is useful in learning English. 6.67% did not agree or disagree.

Figure 4.4 shows the mobile usage of the participants in learning English.

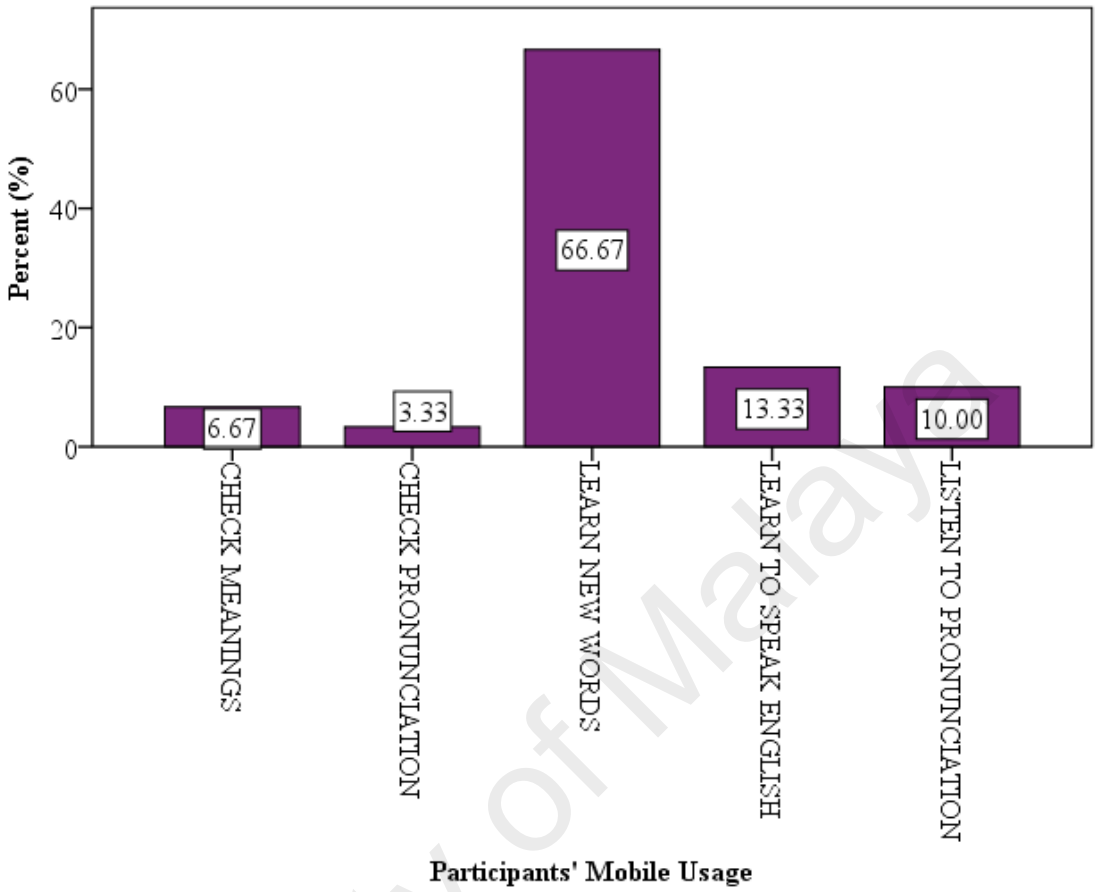

Figure 4.4: Participants' Mobile Usage in Learning English

This figure is based on a more specific question on students' preferences on the usefulness of mobile technology in learning English, whereas Figure 4.2 was a general view on mobile usage. In this item, students stated the activities that they specifically do on their mobile phone to learn English. The responses show that 66.67% of the participants use their mobile phones to learn new words. 13.33% learn to speak English using the mobile phone. 10% listen to pronunciation using mobile phones. 6.67% check meaning of vocabulary on mobile phones and 3.33% check the pronunciation.

Figure 4.5 shows the participants' mobile skills rating. Students were asked to rate themselves based on their mobile technology skills.

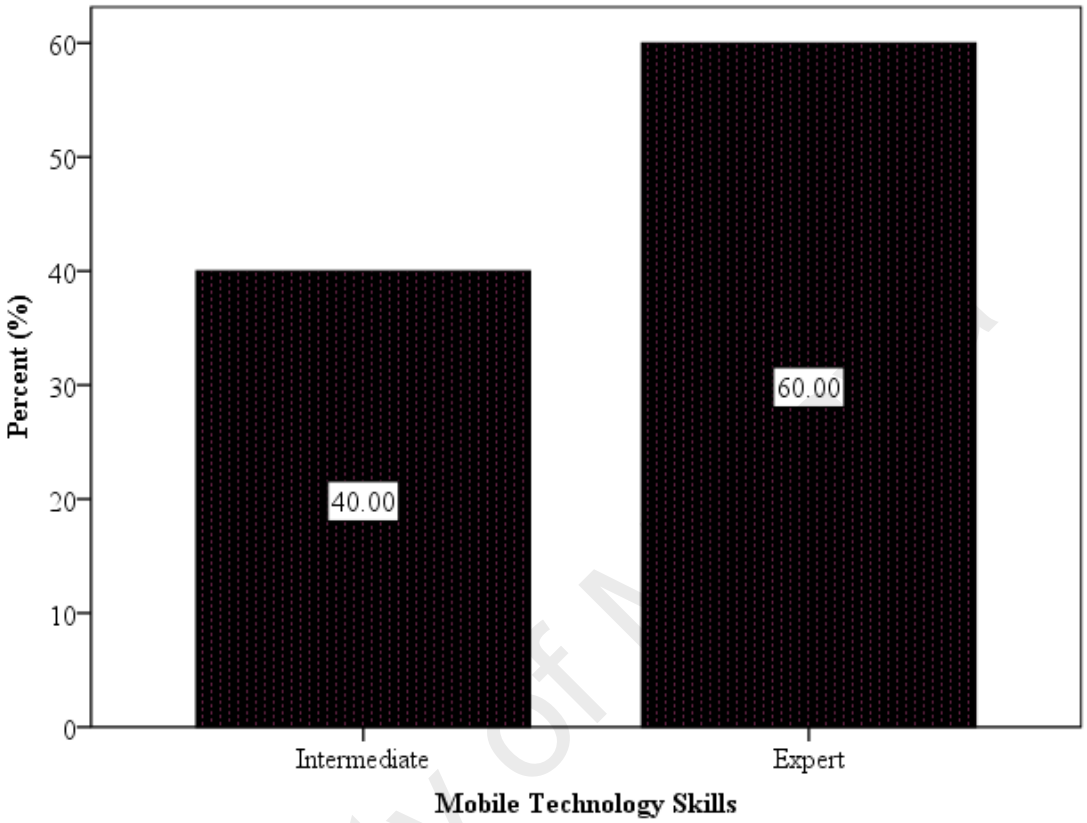

Figure 4.5: Participants' Mobile Skills Rating

60% of the participants rated themselves as experts and 40% rated themselves at an intermediate in using smartphones.

Figure 4.6 shows participants' English proficiency level.

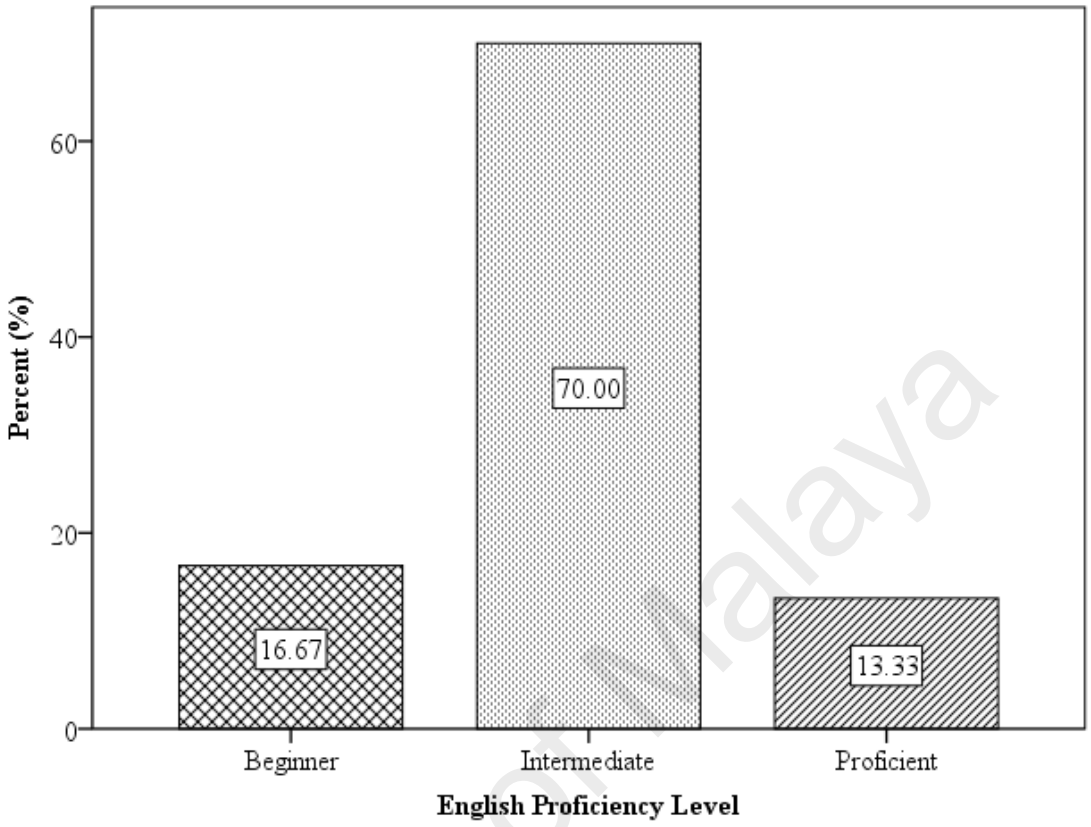

Figure 4.6: Participants' English Proficiency Level

In this questionnaire item, students rated themselves of their overall English proficiency. 70% rated their proficiency at intermediate level, 16.67% as beginners and 13.33% responded proficient. This was to know how well they think they can understand the instruction and handle the mobile phone.

4.2.3 Daily Activity Report on Mobile Usage

Information on participants' daily activities, when and where they use mobile phones were obtained through the demographic survey questionnaire. Information on specific activities done on mobile phones were collected through these items. Besides, students particularly stated the places and number of hours they use the mobile phone.

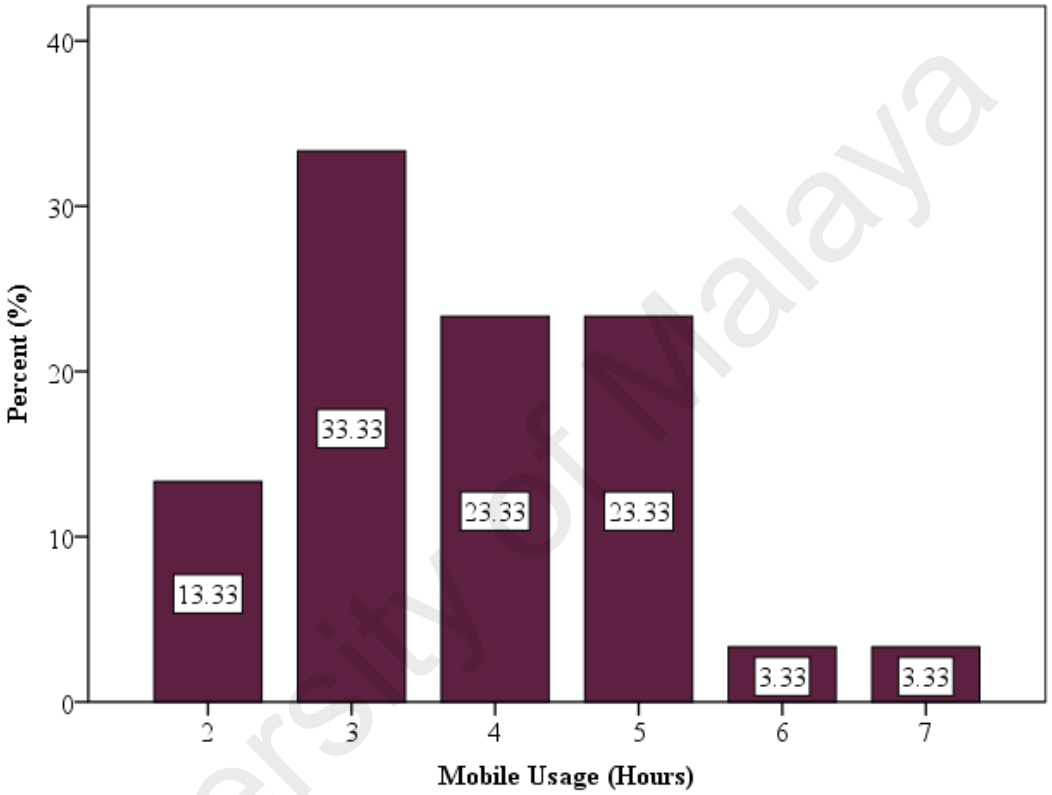

Figure 4.7: Participants' Mobile Usage (Hours)

All the 30 participants responded that they used their phone. This question was to find out the maximum and the minimum number of hours that majority of the students spend on mobile phone daily. The above Figure 4.7 shows the number of hours participants use their mobile phones. The highest percentage of 33.33% responded they use the phone for 3 hours and the minimum was 3.33% who responded they use the phone for 6 and 7 hours.

Figure 4.8 shows the number of hours students use mobile phones in classroom.

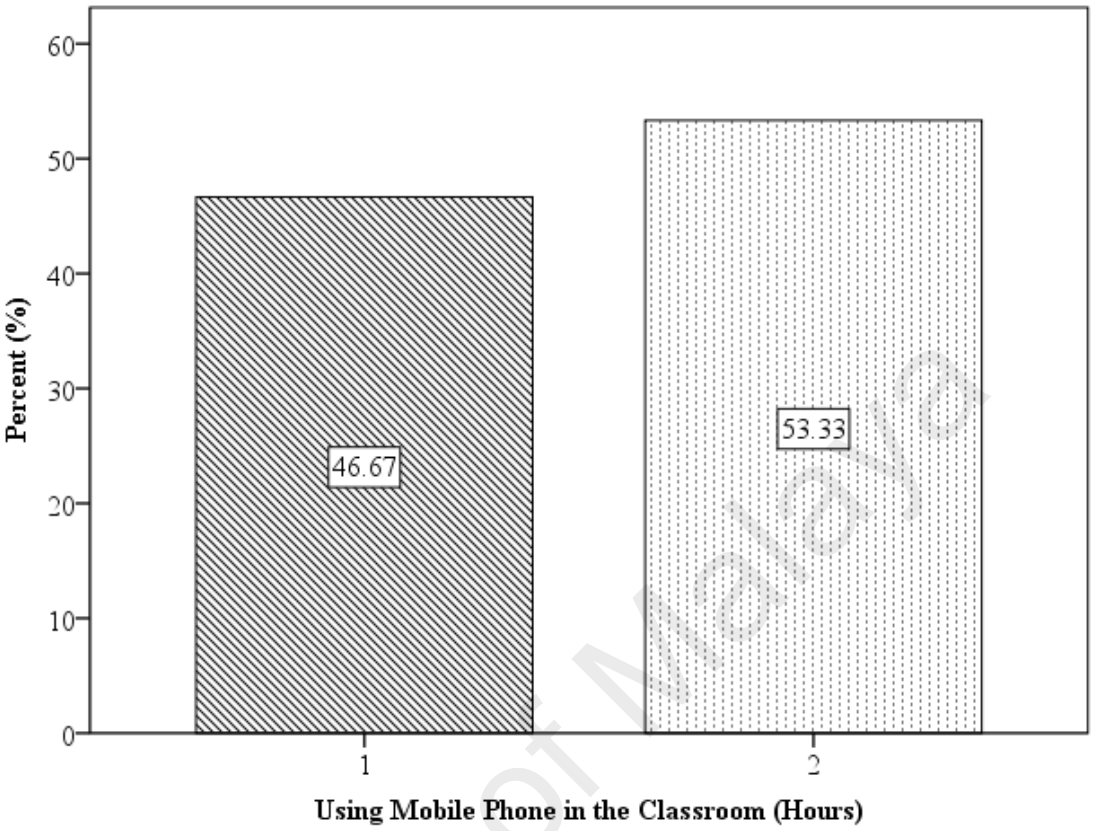

Figure 4.8: Participants' Mobile Usage in the Classroom (Hours)

The findings in the above Figure 4.8 shows that 53.33% of the participants use their mobile phones for 2 hours in the classroom and 46.67% responded 1 hour. Students normally use mobile phone in classroom. Students are experts in checking the meaning of unknown words mentioned during the lesson. Besides, students also use mobile phones to translate new words in classroom particularly to complete any given task.

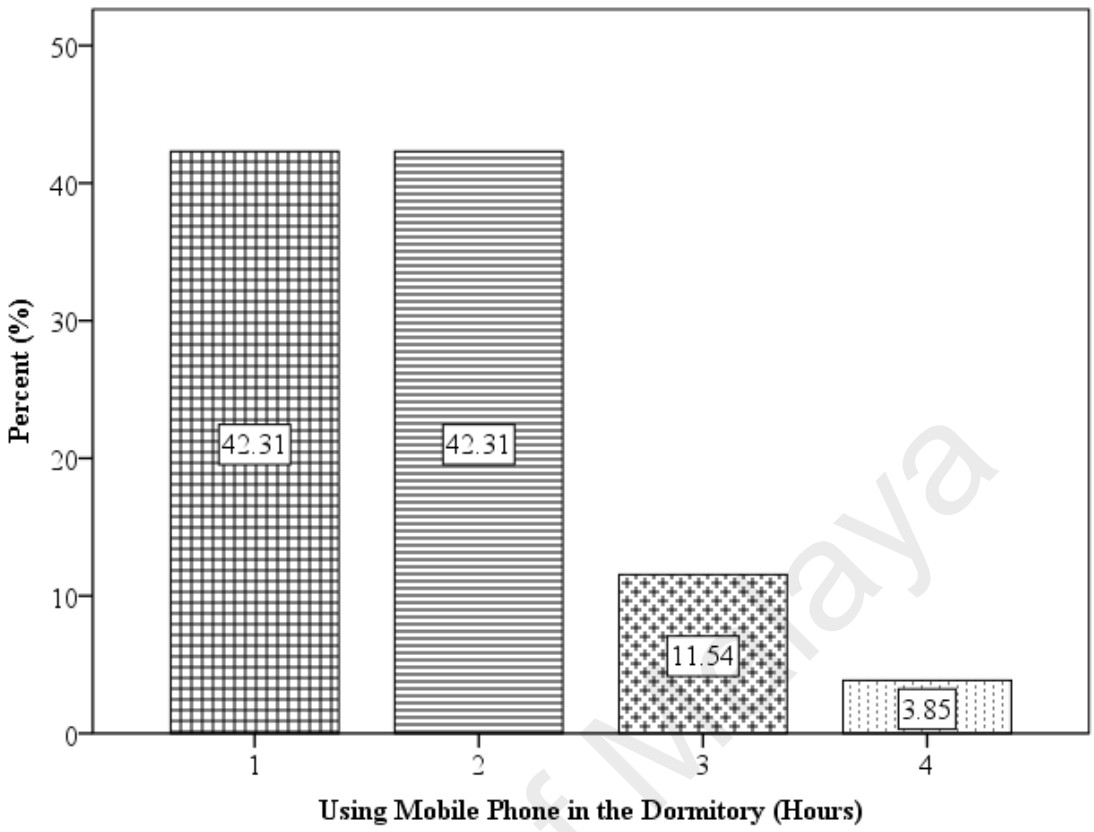

Figure 4.9: Participants' Mobile Usage in the Dormitory (Hours)

Figure 4.9 shows participants' responses on the number of hours they use mobile phones in the dormitory. 42.31% responded that they use mobile phones for 1 hour and another 42.31% responded 2 hours. 11.54% responded 3 hours and 3.85% responded 4 hours.

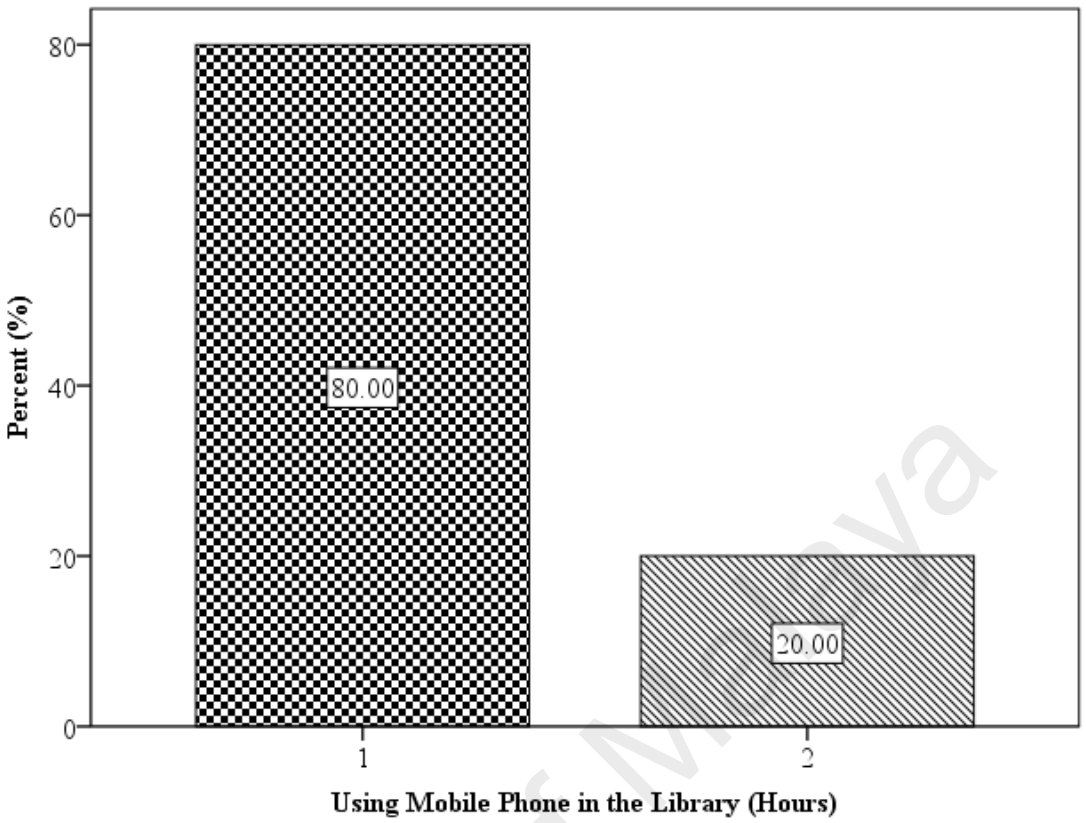

Figure 4.10: Participants' Mobile Usage in the Library (Hours)

Figure 4.10 shows participants' responses on the number of hours they use mobile phones in the library. 80% of the participants use their mobile phones for 1 hour in the library and 20% responded 2 hours.

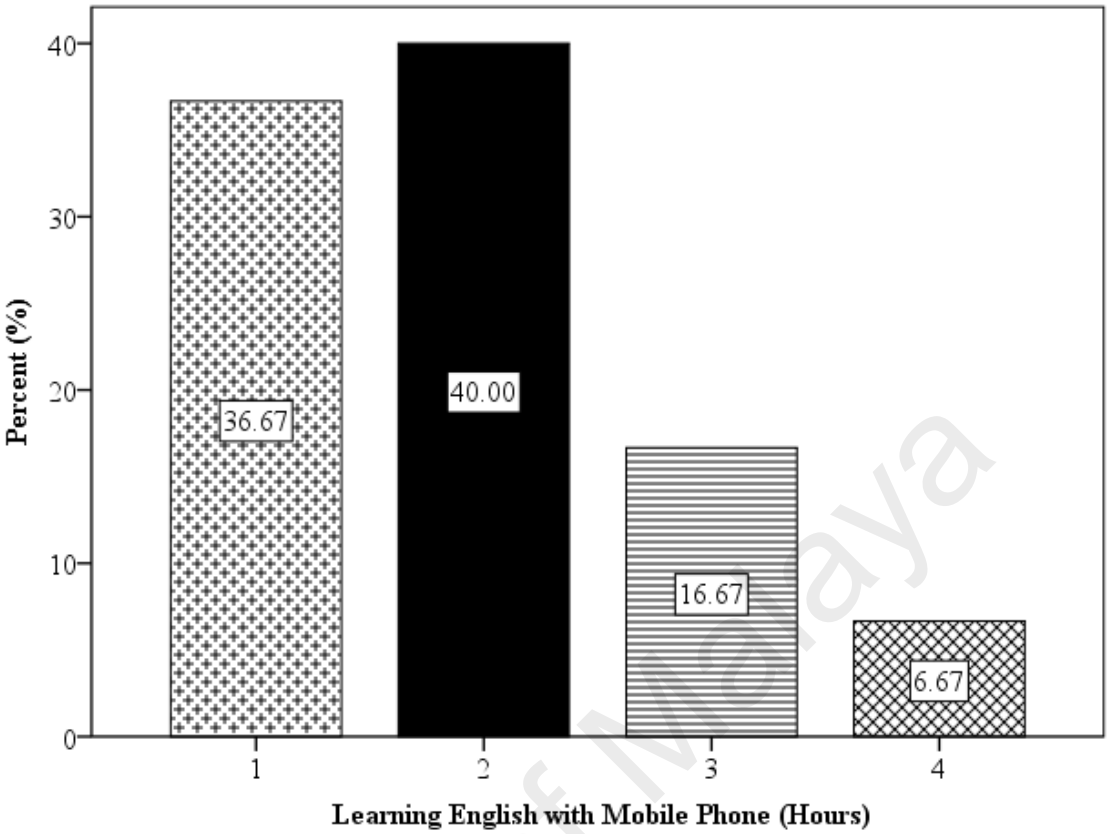

Figure 4.11: Participants' Hours of Mobile Usage to Learn English

Figure 4.11 shows the number of hours participants spend on their mobile phone in learning English. 40% of participants spend 2 hours on their mobile phone to learn English. Followed by 36.67% responded 1 hour, 16.67% responded 3 hours and 6.67% responded 4 hours.

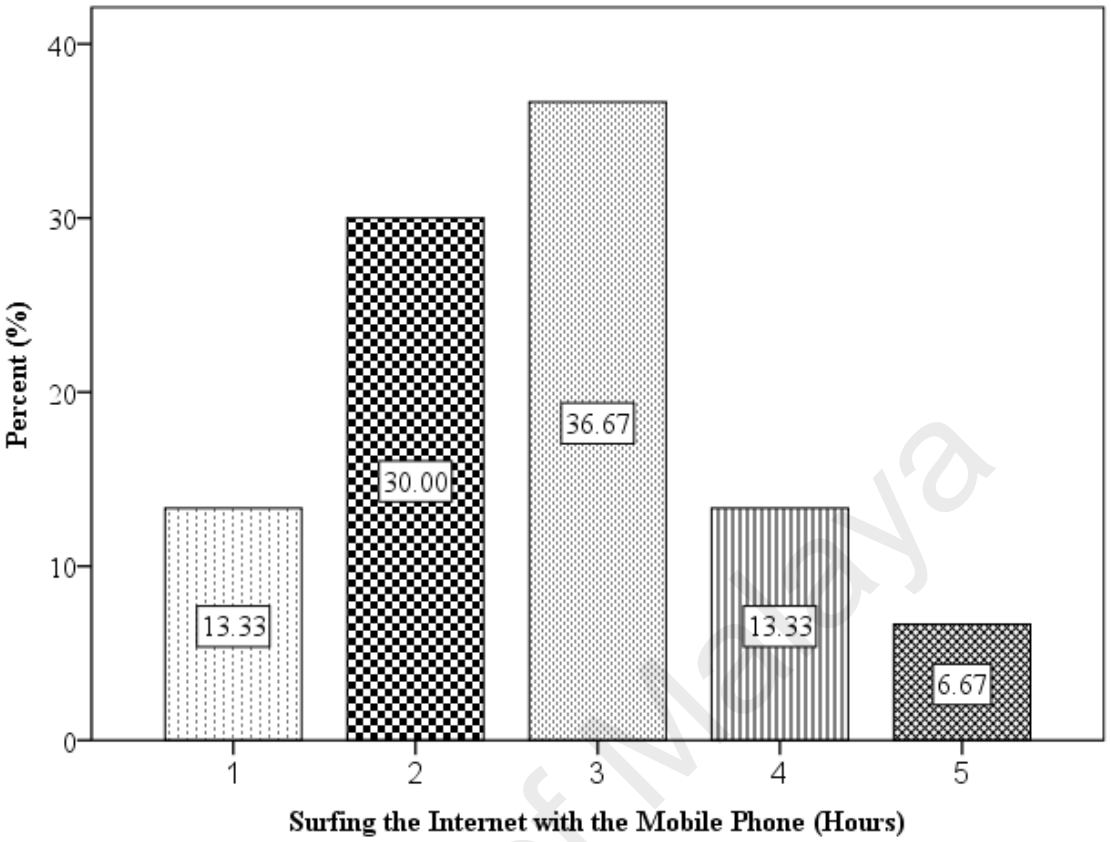

Figure 4.12: Participants' Hours of Using Mobile Phone to Surf the Internet

Figure 4.12 shows the number of hours participants spend using mobile phones to surf the internet. 36.67% responded that they spend 3 hours surfing the internet. 6.67% participants responded that they spend 5 hours to surf the internet with their mobile phone.

Figure 4.13 shows the number of hours participants spend using mobile phones to play games.

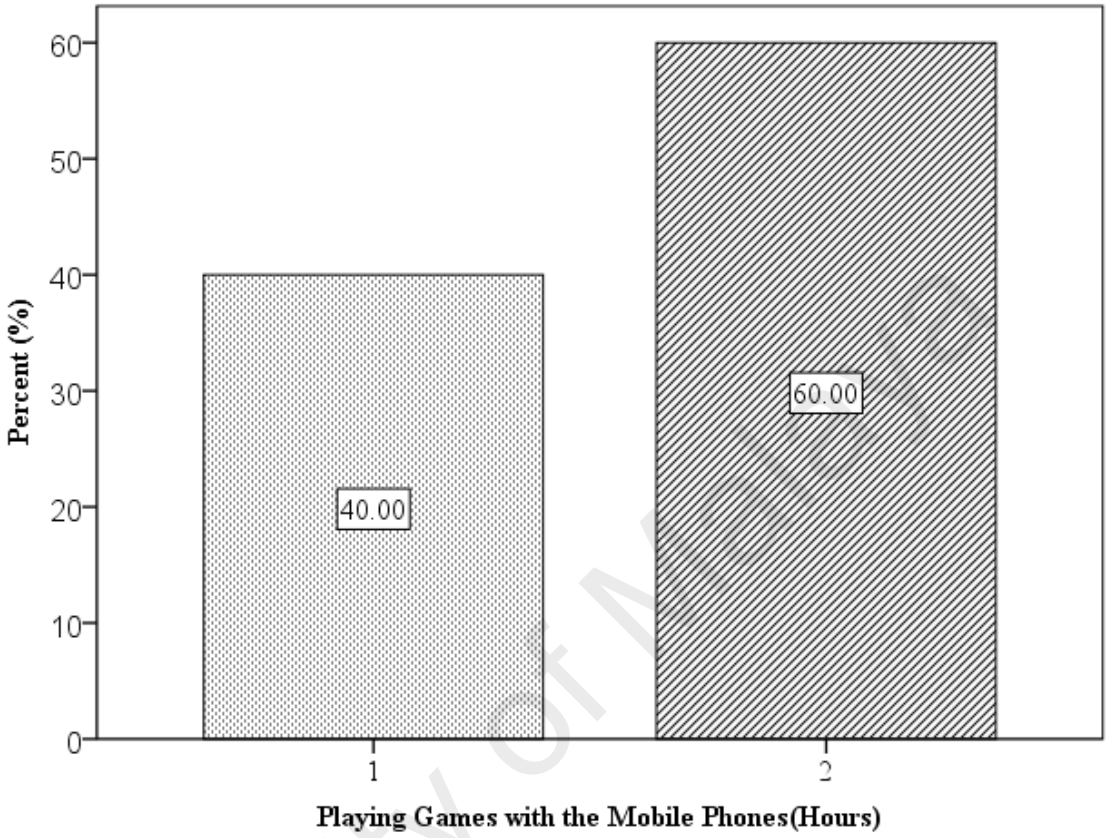

Figure 4.13: Participants' Hours of Using Mobile Phone to Play Games

All participants of this study play games on their mobile phones. 60% responded that they spend 2 hours and another 40% responded one hour.

Figure 4.14 shows the number of hours participants spend watching movies on mobile phones.

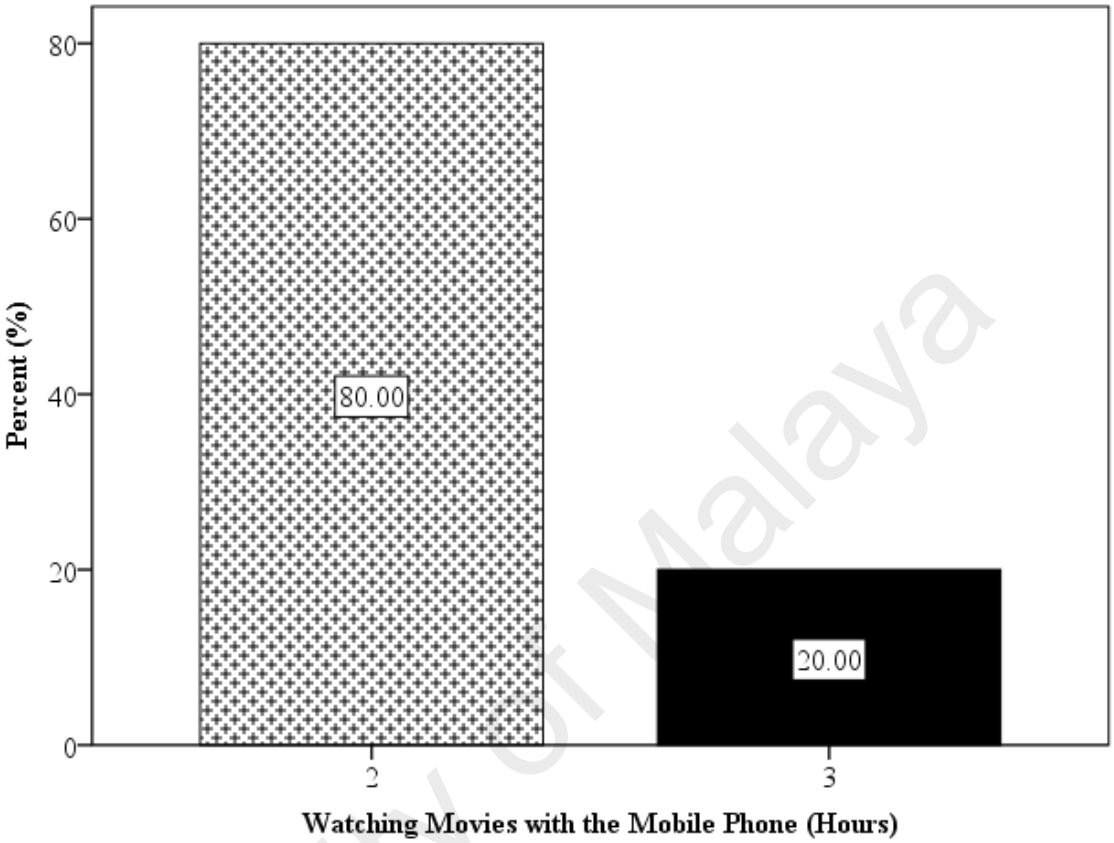

Figure 4.14: Participants' Hours of Using Mobile Phone to Watch Movies

80% of the participants watch movies for two hours on their mobile phones and 20% watch movies for 3 hours using their mobile phones.

Figure 4.15 shows the number of hours participants spend listening to music on mobile phones.

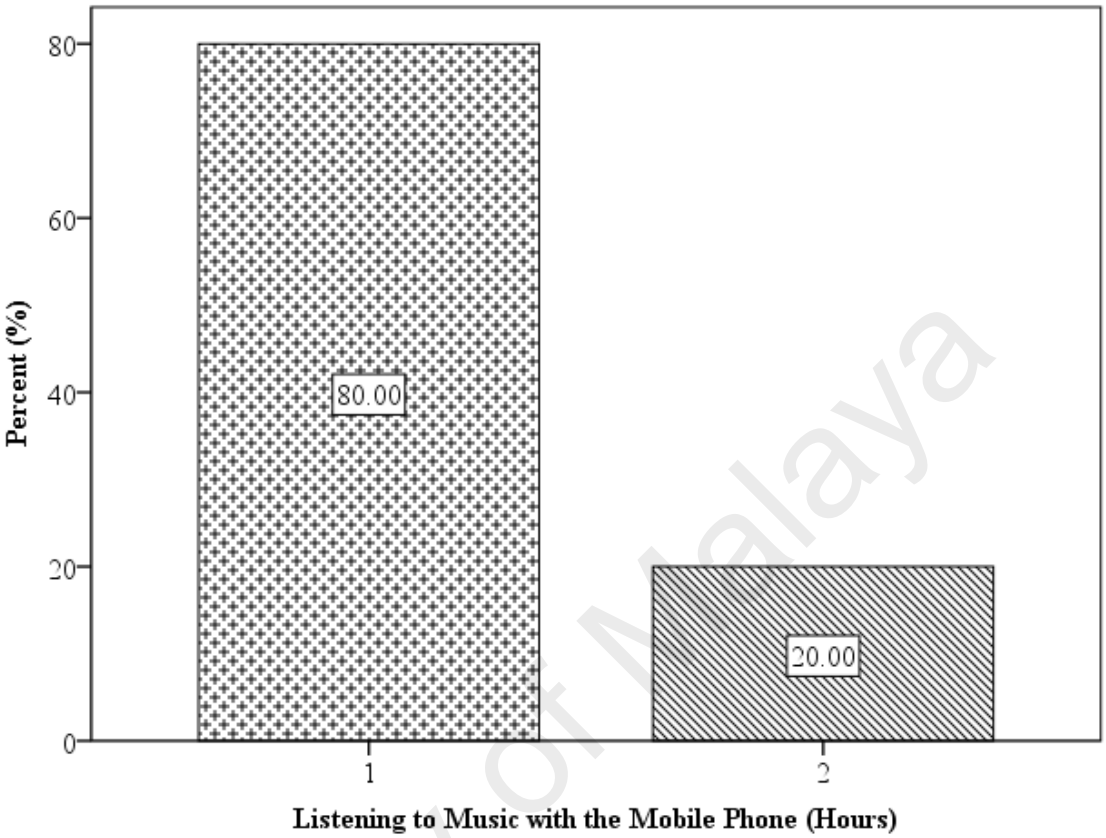

Figure 4.15: Participants' Hours of Using Mobile Phone to Listen to Music

80% of the participants spend an hour listening to music using their mobile phones and another 20% responded 2 hours.

4.3 Pre-test/ Post-test

Pre-testing and post-testing are some of the extensively used methods to evaluate or analyze students' performance and achievements. Adding on to that, learning retention was also factored in in all instructional designs. Therefore, a pre-test, post-test and essay writing task were used to determine if students were able to remember vocabulary better after using the mobile phone.

This study addressed the matter of students' vocabulary acquisition through the use of mobile phone usage among tertiary level students who are learning English in an ESL classroom. In this study, both pre-tests and post-tests were used to look into the effectiveness of the mobile phone as a learning tool. Students' scores before, during and after using mobile phones were compared. The analysis was based on test scores and a quantitative survey.

In response to the first research question, the pre-test and post-test were administered to 30 intermediate level second language learners of English who. Students were not allowed to use their mobile phones throughout their pre-test while in the post test students had to use the dictionary on their mobile phones.

Table 4.4: The Pre-Test and Post-Test Scores of the Participants.

Student	Pre-test (%)	Post-test (%)
1	69	75
2	55	65
3	51	60
4	45	50
5	40	55
6	39	50
7	41	50
8	75	85
9	65	76
10	60	65
11	62	70
12	53	68
13	50	71
14	74	78
15	60	70
16	55	60
17	56	70
18	71	82
19	72	75
20	70	75
21	61	70
22	46	55
23	48	52
24	70	76
25	37	45
26	73	80
27	69	76
28	68	77
29	56	68
30	50	60

Table 4.4 shows the pre-test and post-test scores of the participants. Based on the scores from the pre-tests and post-tests, the following analysis was run.

Table 4.5 Paired Samples Test for Pre and Post Tests

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre - Post	-8.933	3.912	.714	-10.394	-7.472	-12.507	29	.000

Table 4.5 shows the paired samples test for pre and post-tests. The paired sample T-tests were run to determine whether the usage of dictionary mobile application helps to improve students' vocabulary while comparing the test marks before and after using the application. The test scores were normally distributed as assessed by Shapiro-Wilk's test ($p>0.05$) and there were no presence of outliers in the data as assessed from the boxplot analysis.

From the analysis, there was a highly significant improvement in the test scores, following the use of the dictionary application by the students, with a mean of mark from 58.03±11.60 to 66.97±10.90, where $t(29)=-12.51$ at p-value<0.0005, with an improvement of 8.93±3.91. Based on the measurements found in the table, the students have performed significantly better after using the mobile phone application dictionary.

Amri and Suleiman (2011) stated that "mobile phones have positively contributed" to English language learning. According to them, "mobile learning helps learners to improve their literacy and numeracy skills and to recognize their existing abilities. It can be used to encourage both independent and collaborative learning experiences". McNeal and Hooft (2006) also mentioned that "using real world resources" such as "for teaching and learning in the classroom can make education more meaningful and relevant to our students".

Therefore the dictionary did help the students to acquire the meaning of vocabulary through the mobile phone and it assisted them in completing the test. Besides, it also builds the students' confidence to learn and use the words. Using mobile phones are effective and is received positively by the ESL learners from China and the Middle East who participated in this study.

4.4 Essay

An essay writing task was done a fortnight later. The two week period was selected to distinguish the actual retention of the words learned after 14 days to avoid the frequently encountered scenario where students recall knowledge only until a test or task is given or completed. Thus, this helped the researcher to determine if students have really acquired the word and its meaning correctly. It was also to see whether the students have effectively acquired the vocabulary and were able to use it correctly in context. The findings from the essay analysis answers research question 1.

Table 4.6 One-Sample Test for Essay Writing

	Test Value = 4					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Essay	-4.065	29	.000	-.933	-1.40	-.46

Table 4.6 shows the sample test for the findings of the essay writing task. One sample T-test was carried out to determine whether the usage of a mobile application dictionary helps to improve students' vocabulary when compared to the vocabulary count score of 4.0 in essay writing.

The vocabulary scores were distributed as assessed by Shapiro-Wilk's test ($p>0.05$) and there was no presence of outliers in the data as assessed from the boxplot analysis.

Mean of vocabulary score (3.07±1.26) was lower than the normal vocabulary count of 4.0, with a highly significant difference of -0.93(95%CI, 1.40 to -0.46), $t(29) = -2.381$, whereby the *p*-value is less than 0.0005.

The value count 4 is set as a benchmark that needs to be achieved by the learners. This was set to obtain a realistic standardised score. Setting the benchmark at a very low score equates to lowering of the standards. Therefore, 4 out of 6 is an adequate score for an intermediate student to achieve. Based on the frequency count, only 9 out of 30 students were able to obtain a score of 4, while 2 students were able to use 5 words correctly, and only 1 student was able to use all of the words correctly. Many did not perform well in the essay writing task although they were able to score in their post-test with the help of mobile phones.

Based on the essays written by the students, it can be clearly seen that many did not use the given vocabulary correctly in context. This clearly showed that the students have to learn the word and the meaning correctly. Remembering the words alone are not enough. When effective vocabulary acquisition takes place, students should be capable of using the vocabulary in the right contexts, correctly.

46% to 60% of students were able to use at least 4 out of 6 words correctly. This shows that approximately 40% of students still need help in using the mobile phone as an effective learning tool.

Therefore, the essay writing task results clearly show that a majority of students could not use the words appropriately in context. The students highly depended on their mobile phone dictionary application to provide the contextual meaning and appropriate usage of the words. In addition, some students even used their mobile phone dictionaries to check sentence level grammar. However, the mobile phone dictionary application do not provide all information regarding the vocabulary in detail. Thus, it may lead students to

struggle a little when writing essays. Adding to that, certain learners get confused with the meanings and usage of the words when it comes to the writing activity. These students are able to acquire the words to complete simple tasks such as filling in the blanks with correct words and matching them to their correct definitions. However, they were unable to use the words in an essay. This is due to their proficiency level and knowledge on English language vocabularies (amount of words acquired). Besides, their entry level when they joined the IEP program should also be considered. They were of Elementary level where they have zero command of the English language.

4.5 Survey Questionnaires

In order to probe the participants' preferences towards mobile phone usage for vocabulary acquisition, a survey was conducted through questionnaires. Questionnaires were adapted from (Walters and Bozkurt, 2009, J.F. Fazeena et al., 2012, Hayta, 2014 and Chen, 2013). This questionnaire consisted of 15 items and after it was piloted, and based on the Cronbach'sAlpha902, the questionnaire was considered reliable. The five-point Likert scale was used to measure their perspectives on using a mobile phone dictionary application as an effective learning tool for vocabulary acquisition.

Each item was measured on a 5-point Likert scale where 1 represented strongly disagree, 2 represented disagree, 3 represented neutral, 4 agree, and 5 reflected strongly agree. The data collected through questionnaires were analyzed and calculated into percentages using SPSS 22.0 2016 and Microsoft Excel 2010. These survey questionnaires helped to identify the reasons behind why students think that mobile phone dictionary applications are effective learning tools particularly in vocabulary acquisition.

This survey was conducted with 30 students (N = 30; average age = 20.63 years). These 30 participants were given a survey questionnaire to indicate their agreement and

disagreements to the statements given in the questionnaires. Based on the findings, a few factors affecting students' L2 vocabulary acquisition were identified. The findings obtained from all the 15 items in the questionnaire are presented in the tables below. The findings from the survey questions helps to answer research question 2 on learners' perceptions on learning vocabulary by using mobile phone dictionary applications.

Item 1: I try to use my mobile phones as much as possible during class time.

Table 4.7: Frequency count and percentage for students' responses on item 1 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Strongly disagree	3	10.0
Disagree	2	6.7
Neutral	3	10.0
Agree	15	50.0
Strongly agree	7	23.3
Total	30	100.0

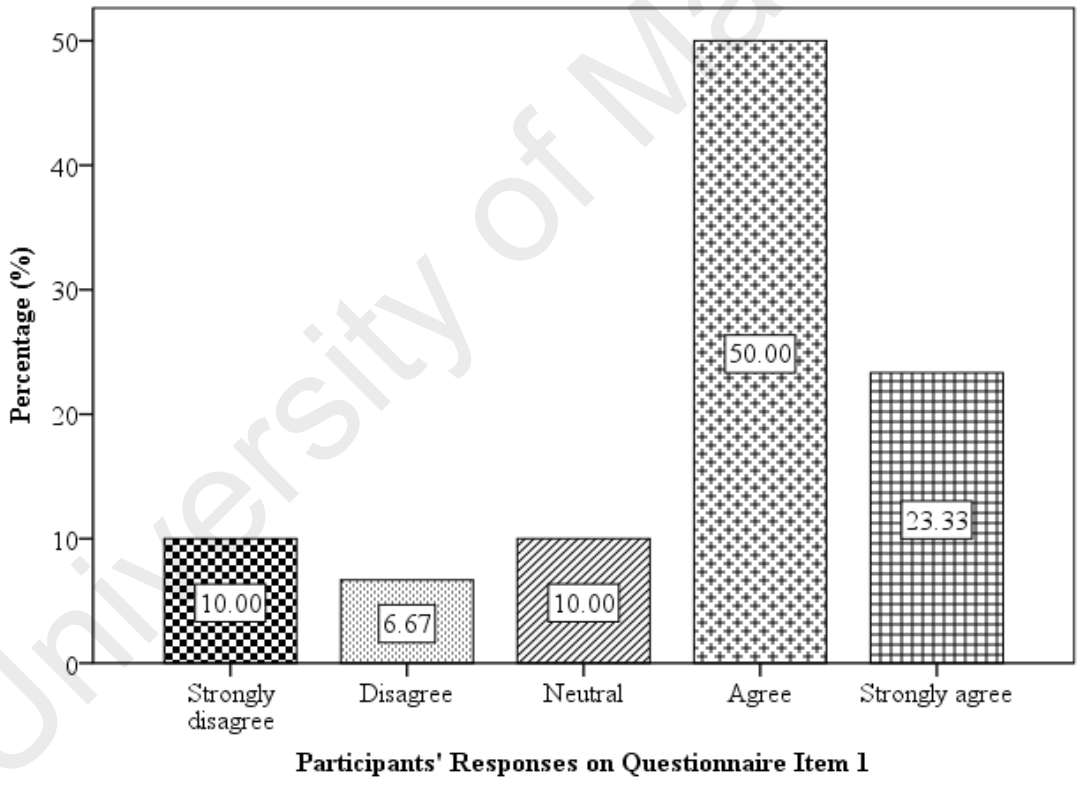

Figure 4.16: Percentage of students' responses on item 1 on their perspectives in using mobile phone for vocabulary acquisition

Table 4.7 and Figure 4.16 show the percentages based on findings for item 1 from the survey. Based on the students' responses, the research showed that 7 (23.3%) students, strongly agreed; 15 students or half of the participants, which makes up 50% of the

respondents, agreed that they try to use their phones as much as possible, while only 2 students (6.7%) disagreed with the statement. This is supported by Braguglia (2008) who studied the usage of mobile phones in a university setting. More than 50%of the participated students replied that they use their mobile phones in class (Braguglia 2008), and most of them did not find that using mobile phones distract learning.

Item 2: I always enjoy learning English through mobile phones.

Table 4.8: Frequency count and percentage for students' responses on item 2 on their perspectives in using mobile phone for vocabulary acquisition.

Likert Scale	Frequency	Percent
Disagree	2	6.7
Neutral	7	23.3
Agree	14	46.7
Strongly Agree	7	23.3
Total	30	100.0

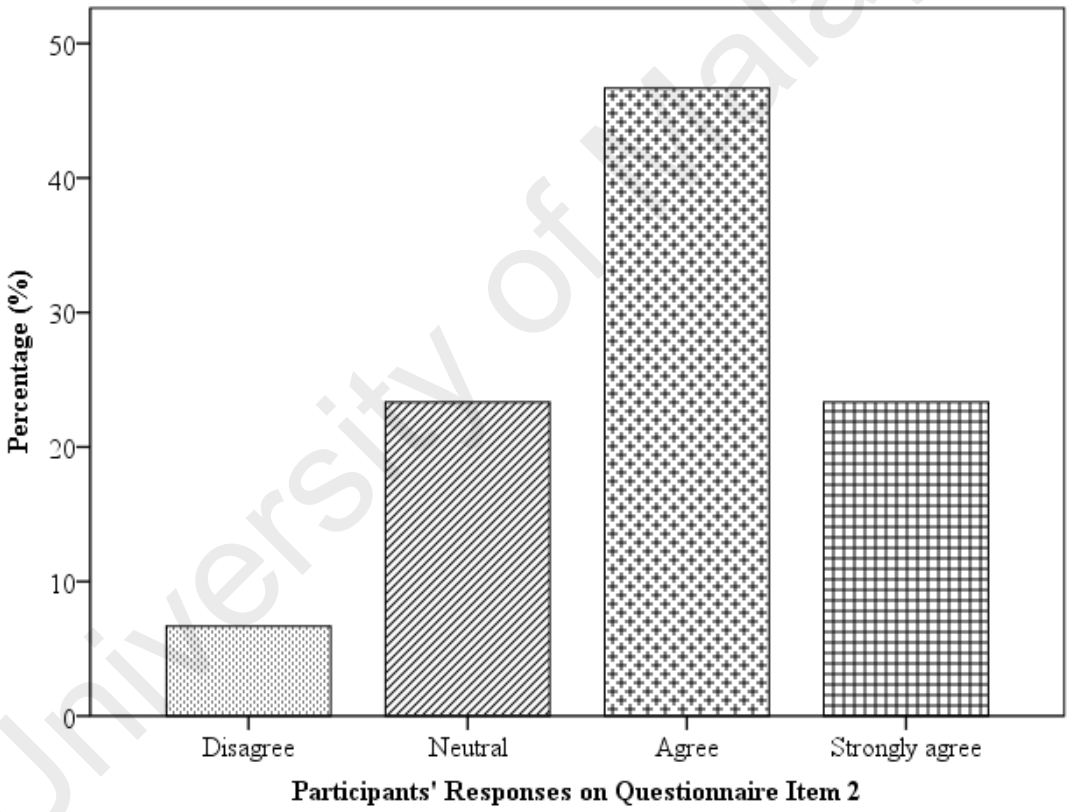

Figure 4.17: Percentage for students' responses on item 2 on their perspectives in using mobile phone for vocabulary acquisition.

Table 4.8 and Figure 4.17 show the percentages based on findings of item 2 from the survey questionnaire. 46.7% which is 14 students agreed that they enjoyed learning English through mobile phones. 7 students (23.3%) strongly agreed and another 7 students (23.3%) recorded a neutral response to this statement. The majority agrees that

"mobile phones allow them to enjoy learning English", including learning vocabulary. However, there were students who gave neutral response. Therefore, it can be said that it is the individual's choice of learning.

Item 3: Mobile phone has assisted my overall learning process.

Table 4.9: Frequency count and percentage for students' responses on item 3 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Strongly disagree	1	3.3
Disagree	1	3.3
Neutral	6	20.0
Agree	17	56.7
Strongly agree	5	16.7
Total	30	100.0

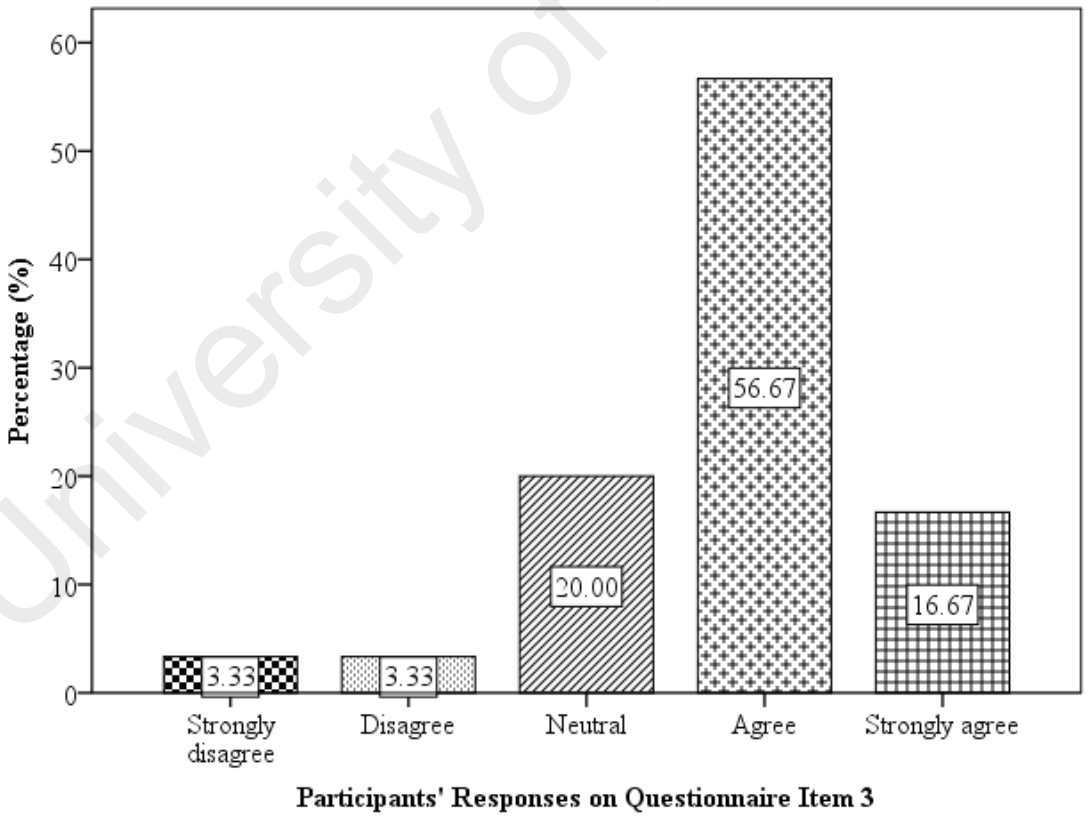

Figure 4.18: Percentage for students' responses on item 3 on their perspectives in using mobile phone for vocabulary acquisition

Table 4.9 and Figure 4.18 show the responses for item 3 in the questionnaires. Based on the responses given by the students, 17 (56.7%) out of 30 students agreed that mobile phones have assisted in their overall learning process. Besides that, 16.7% strongly agreed to the statement. Therefore, over 50% respondents said yes to this statement. However, 20% of the respondents were neutral with 3.3% disagreeing while another 3.3% strongly agreed. The findings for this item conclude that mobile phones enhance the learning process for most of the ESL learners. However, there are few who may feel that mobile phones inhibit their learning process. Thus, it all depends on their perspectives toward usage of mobile phones as a learning tool.

The current study found that mobile phone dictionary applications supply beneficial and appropriate support to the access and comprehension of lexical forms and meanings. This helps the FL learners in reading, writing, listening, and speaking activities. This can also include pronunciation for speaking and listening activities. This can be supported with (Chun, 2001; Elola et al., 2008; Kaur & Hegelheimer, 2005; Lenders, 2008; Loucky, 2010) who conducted researches related to the use of online dictionaries.

Item 4: I plan better for my learning with mobile phones than without it.

Table 4.10: Frequency count and percentage for students' responses on item 4 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Strongly disagree	1	3.3
Disagree	3	10.0
Neutral	8	26.7
Agree	14	46.7
Strongly agree	4	13.3
Total	30	100.0

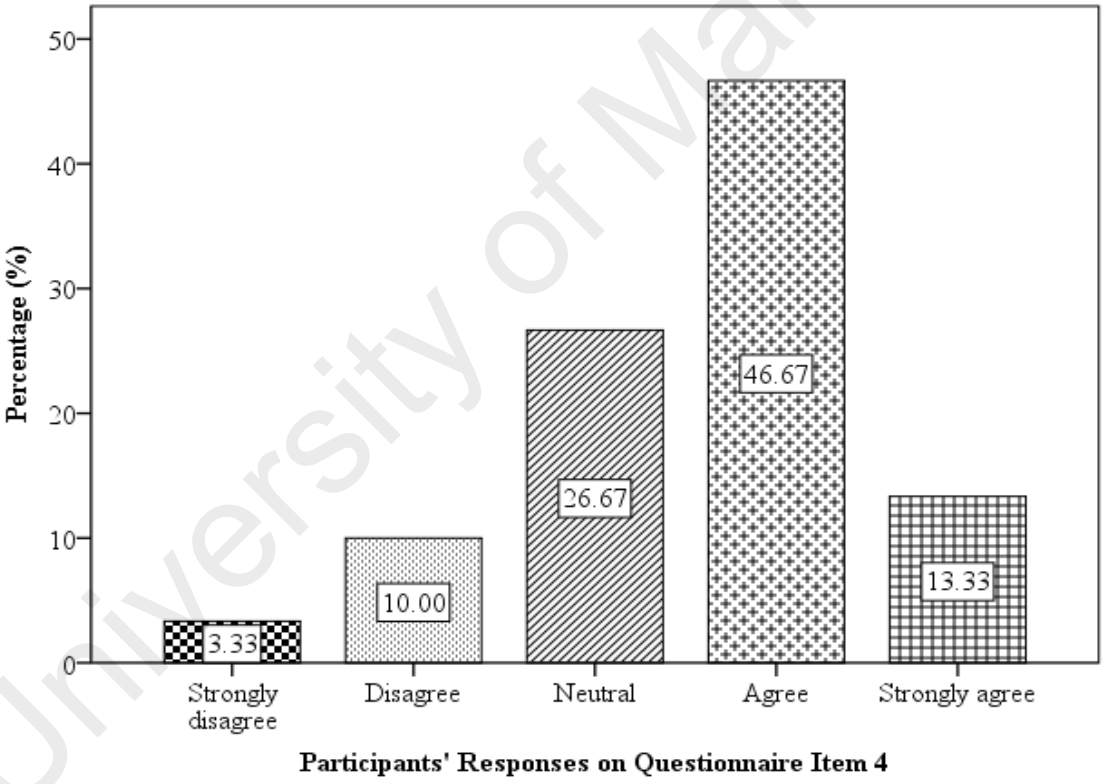

Figure 4.19: Percentage for students' responses on item 4 on their perspectives in using mobile phone for vocabulary acquisition

Table 4.10 and Figure 4.19 show that 14 (46.7%) and 4 (13.3%) of the respondents tend to have affinity towards better learning; 18 (26.7%) of the respondents gave a neutral response to it. On the contrary 10% disagreed and 3.3% strongly disagreed to the

statement. However, the findings are still reliable and valid to prove that mobile phones do provide help to the students for their learning.

Item 5: The use of mobile phones in learning makes me more productive.

Table 4.11: Frequency count and percentage for students' responses on item 5 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Neutral	5	16.7
Agree	20	66.7
Strongly agree	5	16.7
Total	30	100.0

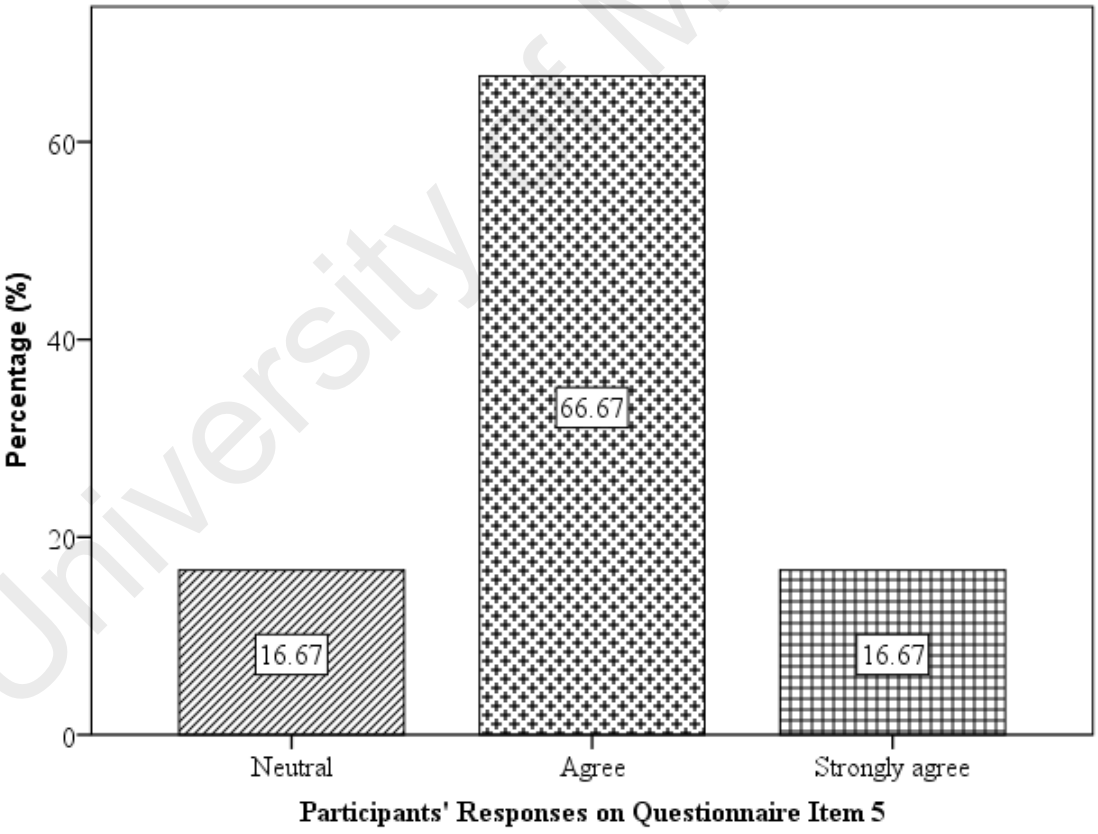

Figure 4.20: Percentage for students' responses on item 5 on their perspectives in using mobile phone for vocabulary acquisition

The responses for this item was highly positive because 20 (66.7%) agreed and another 5 (16.7%) strongly agreed that mobile phone makes their learning more

productive. This shows a positive feedback towards the usage of mobile phone in ESL learning. Overall only 16.7% did not give a stand and gave neutral response. This can be attributed to the fact that they are intermediate learners and they need more time to decide on their perspectives towards using mobile phones in an ESL classroom. In addition, since there is no disagreement, it can be reported that mobile phones give a positive impact towards a more productive learning process.

Item 6: I find the use of mobile phone enhancing the learning process.

Table 4.12: Frequency count and percentage for students' responses on item 6 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Disagree	1	3.3
Neutral	8	26.7
Agree	15	50.0
Strongly agree	6	20.0
Total	30	100.0

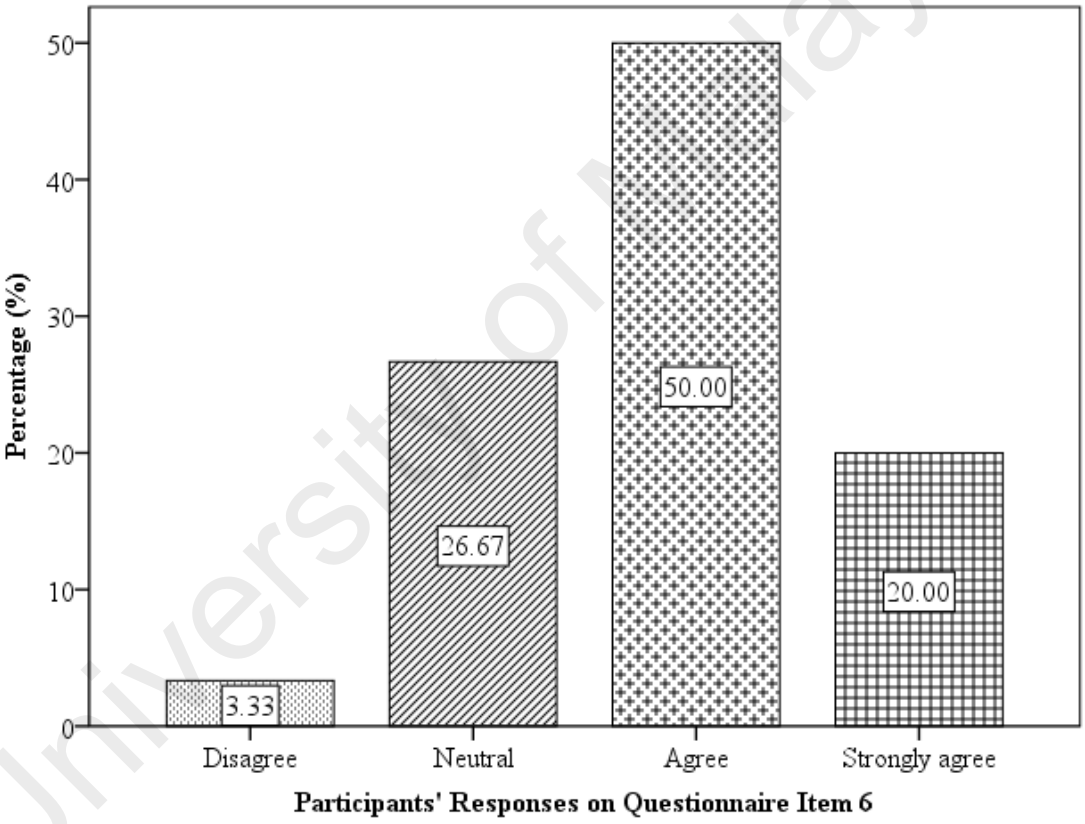

Figure 4.21: Percentage for students' responses on item 6 on their perspectives in using mobile phone for vocabulary acquisition

Alzahrani (2005) claimed that studies on students' attitude towards using mobile phones for vocabulary development shed light on students' perspectives about incorporating mobile technology in learning languages, generally, and particularly vocabulary acquisition. Therefore, it correlates with students' response on this item with

50% agreeing and 20% strongly agreeing to this statement. Another study by Anaraki (2008) showed that a majority of participants have a favourable stance "towards mobile learning, and they are keen to learn the language using their mobile devices" (p. 34). Students have developed "positive attitudes" concerning "the use of mobile devices in learning" (Cavus & Ibrahim, 2009). So, it seems that mobile technology has "a positive impact on students' learning experiences". The benefits from employing such technology in their learning are earned; otherwise, they would not show a positive attitude toward it. The feedback from students for item 6 shows that they agree that mobile phones enhance their learning process.

Item 7: My vocabulary acquisition has increased because of my mobile phone dictionary.

Table 4.13: Frequency count and percentage for students' responses on item 7 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Neutral	9	30.0
Agree	16	53.3
Strongly	5	16.7
Total	30	100.0

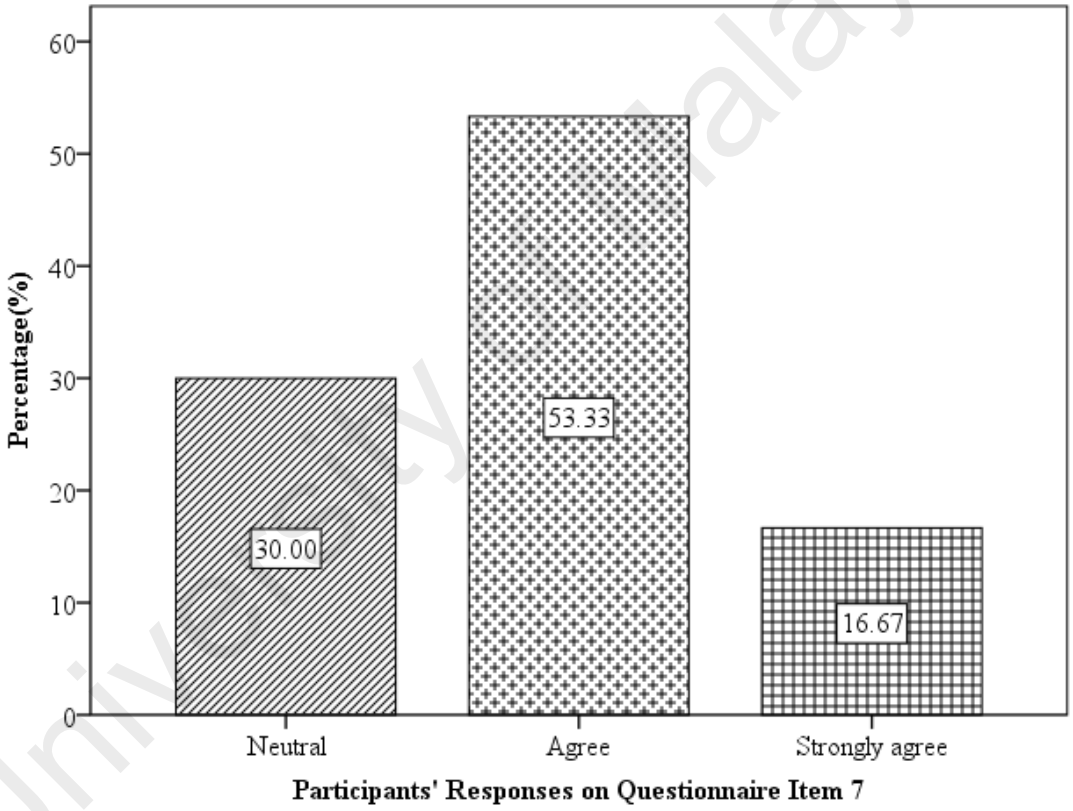

Figure 4.22: Percentage for students' responses on item 7 on their perspectives in using mobile phone for vocabulary acquisition

In this study, English is not the native language of the respondents and it is very difficult for them to understand what is being said or written. So, the students have to learn Standard English language. Besides, they cannot depend on television or computers all the time and it is difficult to carry them around. Moreover, mobile phones are portable

devices which can be carried to everywhere and even used in bed. The salient features of mobile phones help the learners throughout the day. Therefore, based on the students' responses to item 7 on their questionnaire which can be seen on Table 4.13 and Figure 4.22, 53.3% of the students agreed that their vocabulary acquisition improved with this technique.

A review also showed that few streams of researches have focused on self-directed problem solving and active learning. Auchey, Mills and Beliveau (2000) advocate that "'self-directed problem solving' in a classroom of furnished construction students in America with experience, application and competence." The assertion that solving problems provide inspiration is backed by research in the United Kingdom. Prince (2004) said that 'active learning' is "any instructional method that engages students in the learning process" that happens within the teaching space. Although using mobile phones differs from the conventional way of classroom teaching and learning, it helps the learners reach their goal. It is similar to a language lab which helps learners acquire new language skills. In this study, mobile application was used to understand the helpfulness of this gadget, for vocabulary acquisition. Therefore, it is a step forward than previous studies that used mobile phone, SMS and internet.

Item 8: Mobile phone usage made me acquire more vocabularies and used them.

Table 4.14: Frequency count and percentage for students' responses on item 8 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Disagree	2	6.7
Neutral	4	13.3
Agree	19	63.3
Strongly agree	5	16.7
Total	30	100.0

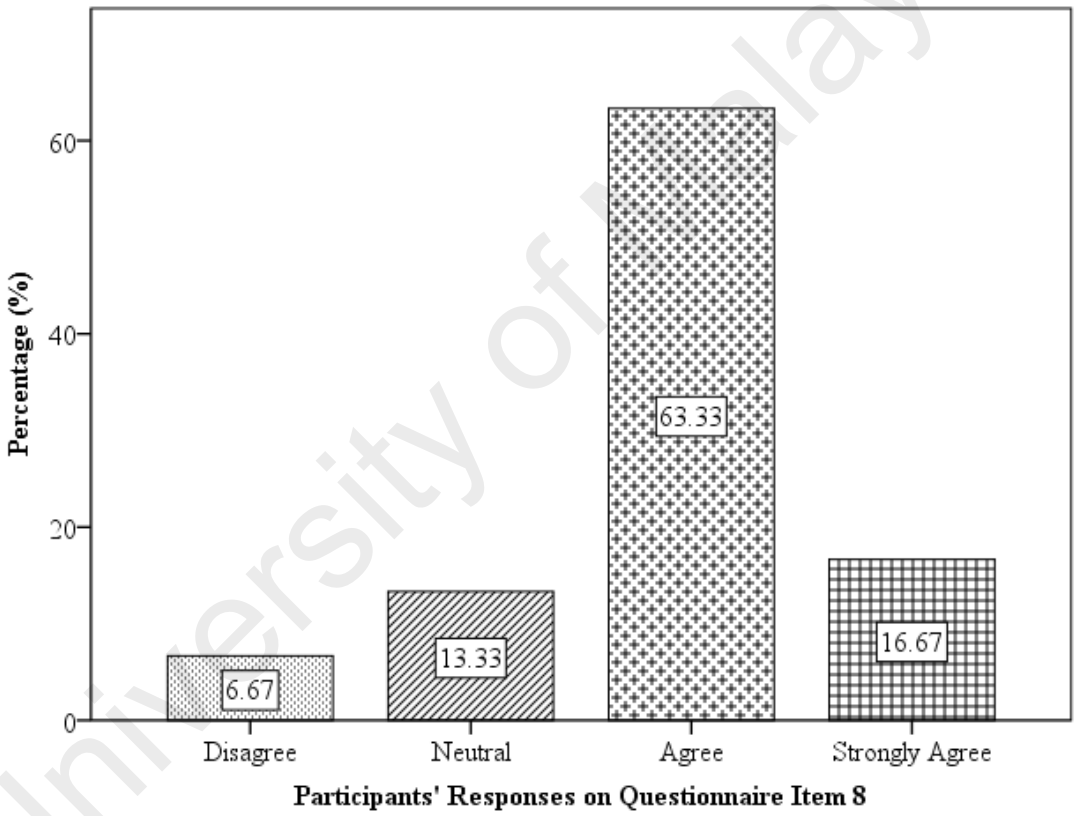

Figure 4.23: Percentage for students' responses on item 8 on their perspectives in using mobile phone for vocabulary acquisition

Table 4.14 and Figure 4.23 show that a majority of participants in this study, 19 (63.3%) agreed that mobile phone usage made them acquire more vocabulary and use it. While 16.7% strongly agreed, 13.3% responded neutral and 6.7% disagreed.

Hu (2011) investigated how adult learners perceive vocabulary learning through mobile phones with 24 English major students studying English vocabularies through their mobile phones. He utilized a questionnaire survey that asked students about their attitudes. Students were found to have favoured mobile phones as an educational tool for new vocabularies. That means the students enjoyed the experience of learning vocabulary through utilizing mobile phones and that has contributed to their positive feedback. The findings demonstrated that learners liked the accessibility of mobile phones, and showed that they took advantage of the convenience when they did not have access to computers or textbooks.

Item 9: I find it easy writing and receiving text messages in English through my mobile phone.

Table 4.15: Frequency count and percentage for students' responses on item 9 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Disagree	1	3.3
Neutral	2	6.7
Agree	10	33.3
Strongly agree	17	56.7
Total	30	100.0

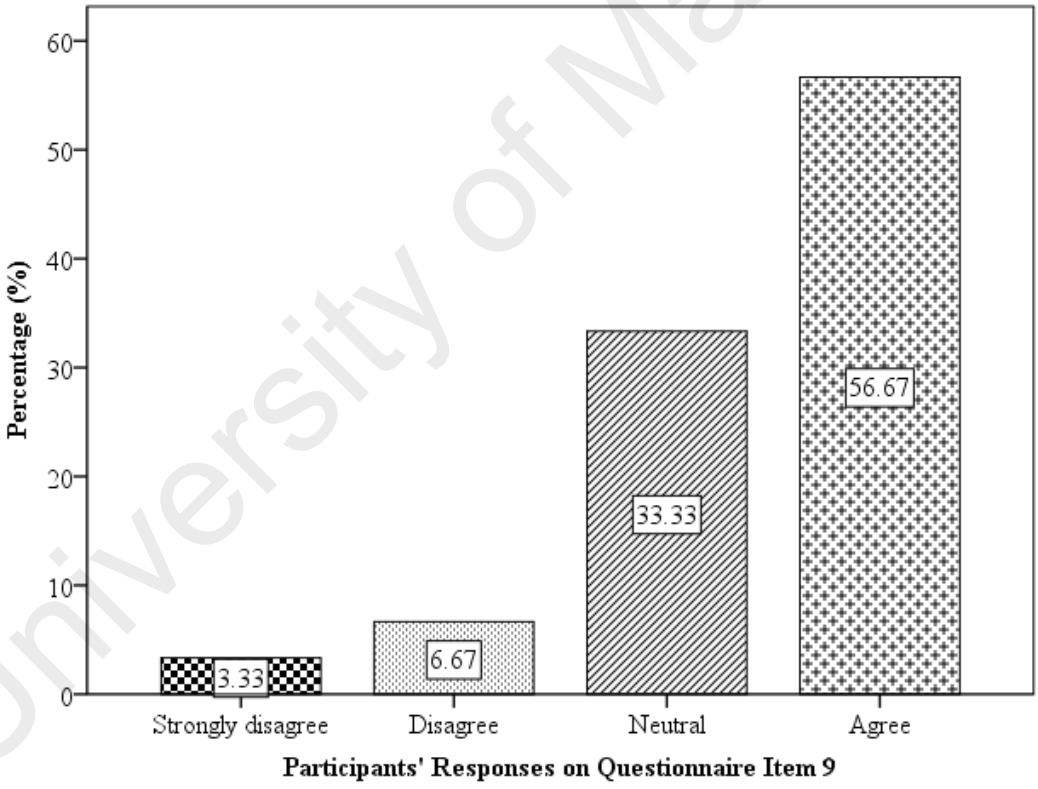

Figure 4.24: Percentage for students' responses on item 9 on their perspectives in using mobile phone for vocabulary acquisition

The findings of this questionnaire item showed 56.7% of the respondents agreed. Besides, 33.3% responded neutral, while there were 6.7% disagreed and 3.3% strongly disagreed. These findings can be supported with previous studies conducted on

vocabulary acquisition through text messages (SMS). Studies showed that the interaction feature allowed by SMS for language learners is very effective in helping them to learn the target vocabulary by developing their own sentences and receiving their feedback. Besides, Zhang, Song and Burston (2011) also proved that SMS helped the students to perform better in tests. In relation to this, it can be said that this result revealed the same.

Item 10: My motivation has been enhanced by the use of mobile phone in and outside the classroom.

Table 4.16: Frequency count and percentage for students' responses on item 10 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Disagree	3	10.0
Neutral	3	10.0
Agree	17	56.7
Strongly agree	7	23.3
Total	30	100.0

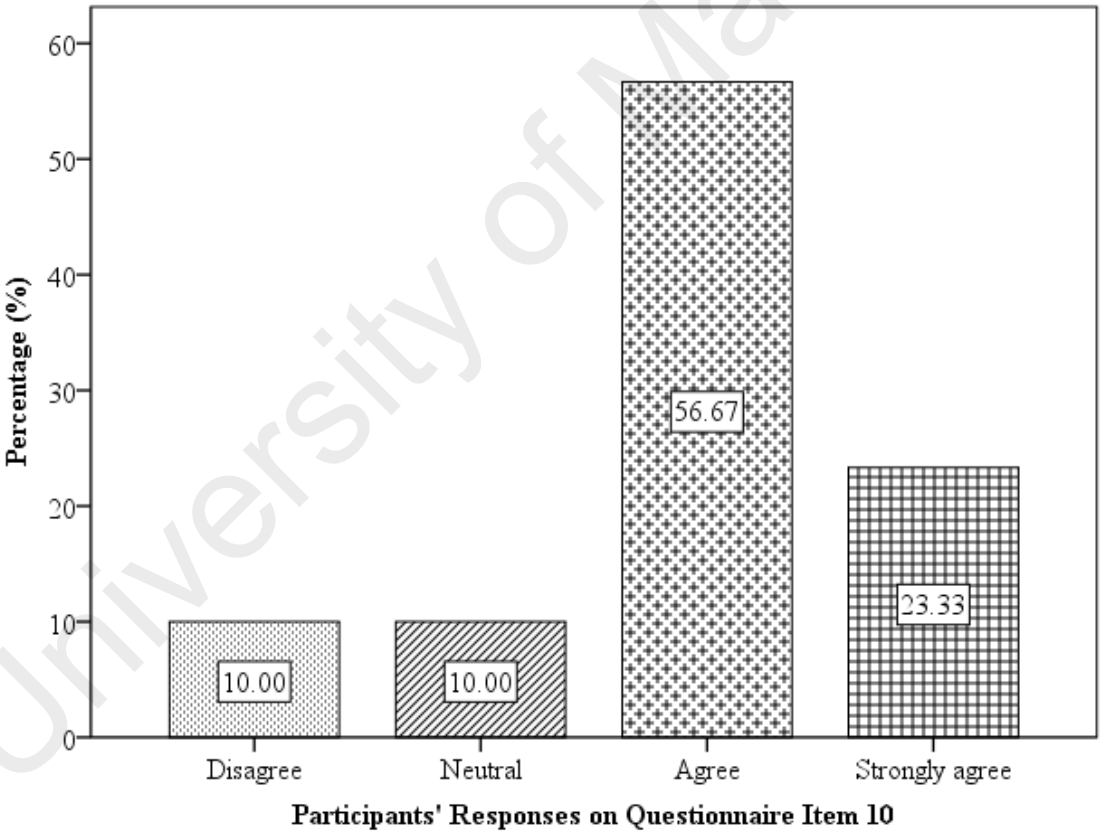

Figure 4.25: Percentage for students' responses on item 10 on their perspectives in using mobile phone for vocabulary acquisition

Based on the table and figure above, results show that 17 students, which mean 56.7% agreed that mobile phones enhance learners' motivation to learn English in and

outside of the classroom while 23.3% strongly agreed to the statement. The results show they are motivated to use such phones for education as it can be an autonomous learning since it reminds them of a vocabulary task when they have forgotten about it. It helped them discipline themselves to keep up with their studies. Students also found that mobile technology is great for those who are busy with family and work and can hardly find time for learning. Students are also given tasks and taught on how to use mobile phones for language acquisition in the classroom. Therefore, it benefits them in both the environments in and outside of the classroom.

Item 11: I could understand simple sentences easily assisted by mobile phone.

Table 4.17: Frequency count and percentage for students' responses on item 11 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Neutral	5	16.7
Agree	22	73.3
Strongly agree	3	10.0
Total	30	100.0

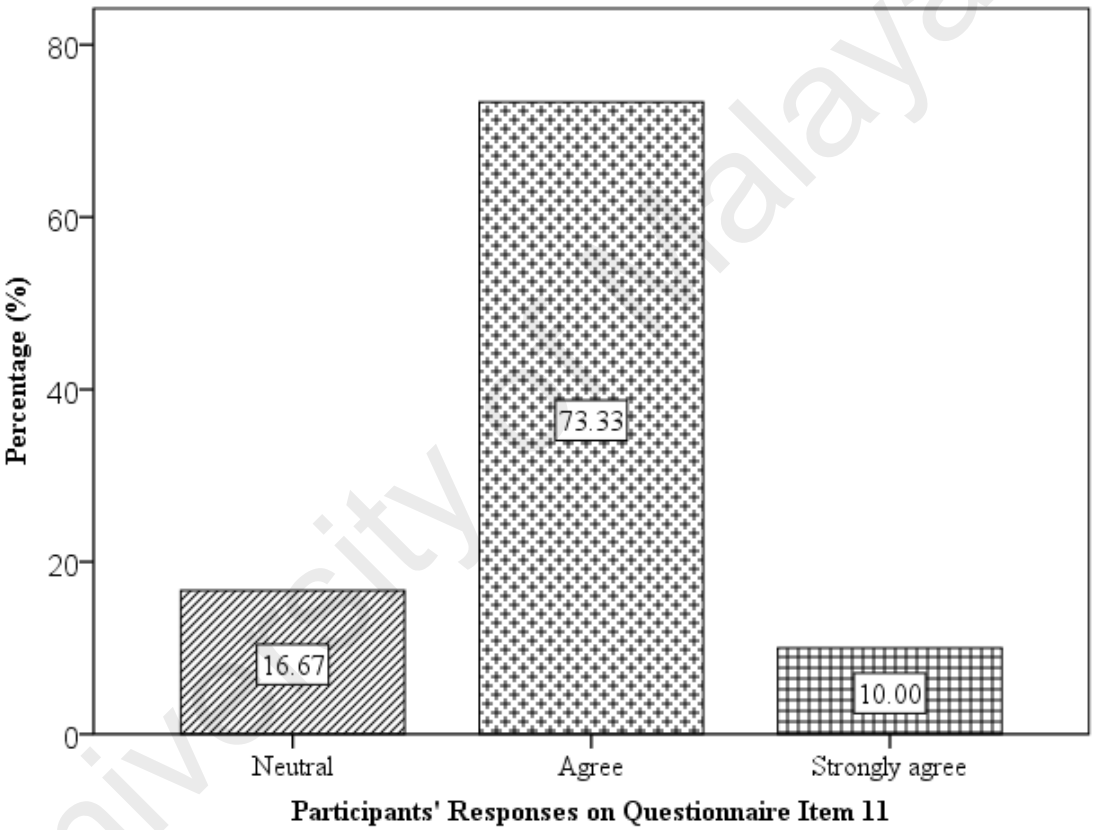

Figure 4.26: Percentage for students' responses on item 11 on their perspectives in using mobile phone for vocabulary acquisition

Based on Table 4.17 and Figure 4.26 the highest value of 73.3% shows that 22 students agreed that they could easily understand simple sentences with the assistance of mobile phones. 10% strongly agreed and 16.7% said neutral. It is a positive response as none of the respondents strongly disagreed or disagreed with the statement;

therefore, confirming that mobile phones provide great assistance in comprehending vocabulary and simple sentences.

Item 12: Using mobile phone in vocabulary acquisition has increased my attention to the English language.

Table 4.18: Frequency count and percentage for students' responses on item 12 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Strongly disagree	1	3.3
Disagree	1	3.3
Neutral	4	13.3
Agree	18	60.0
Strongly agree	6	20.0
Total	30	100.0

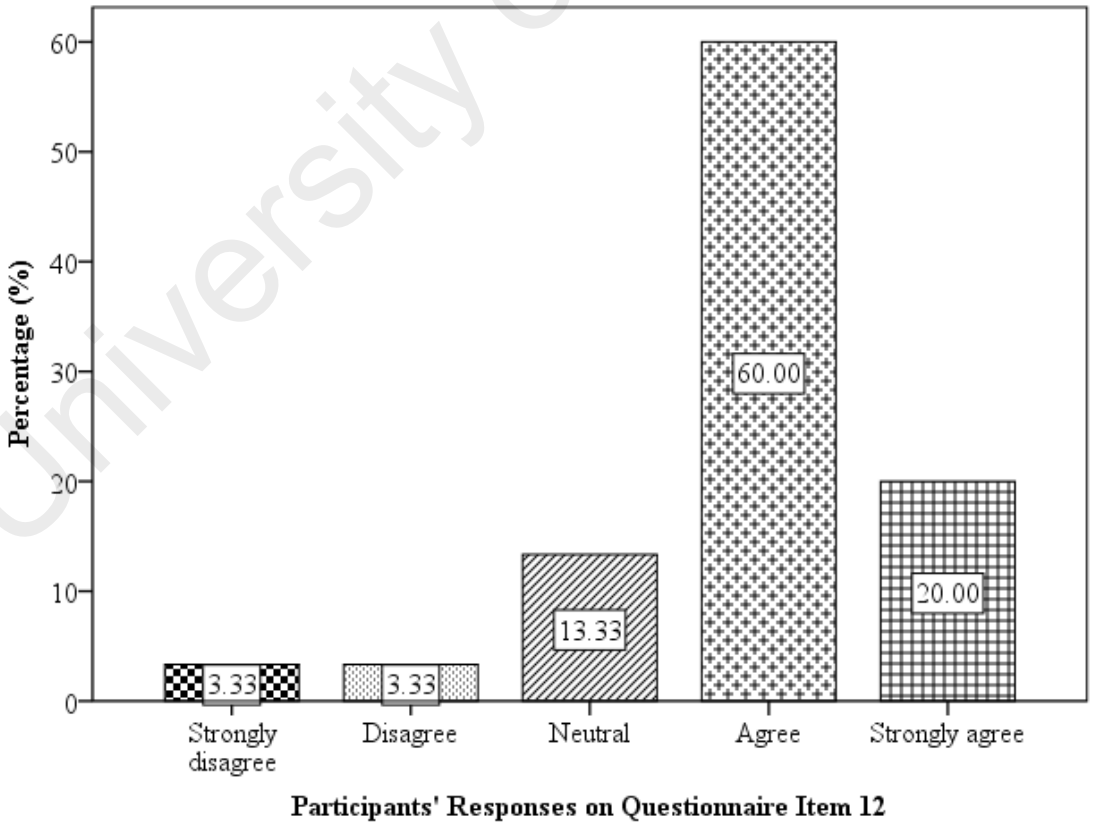

Figure 4.27: Percentage for students' responses on item 12 on their perspectives in using mobile phone for vocabulary acquisition

Table 4.18 and Figure 4.27 show the percentages of students' responses on whether or not mobile phone usage increased their attention towards English language. 60% agreed and 20% strongly agreed. These show that mobile phones do affect learners' attention towards learning English as a second language.

Item 13: I learned extra words through mobile phones.

Table 4.19: Frequency count and percentage for students' responses on item 13 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Neutral	5	16.7
Agree	19	63.3
Strongly agree	6	20.0
Total	30	100.0

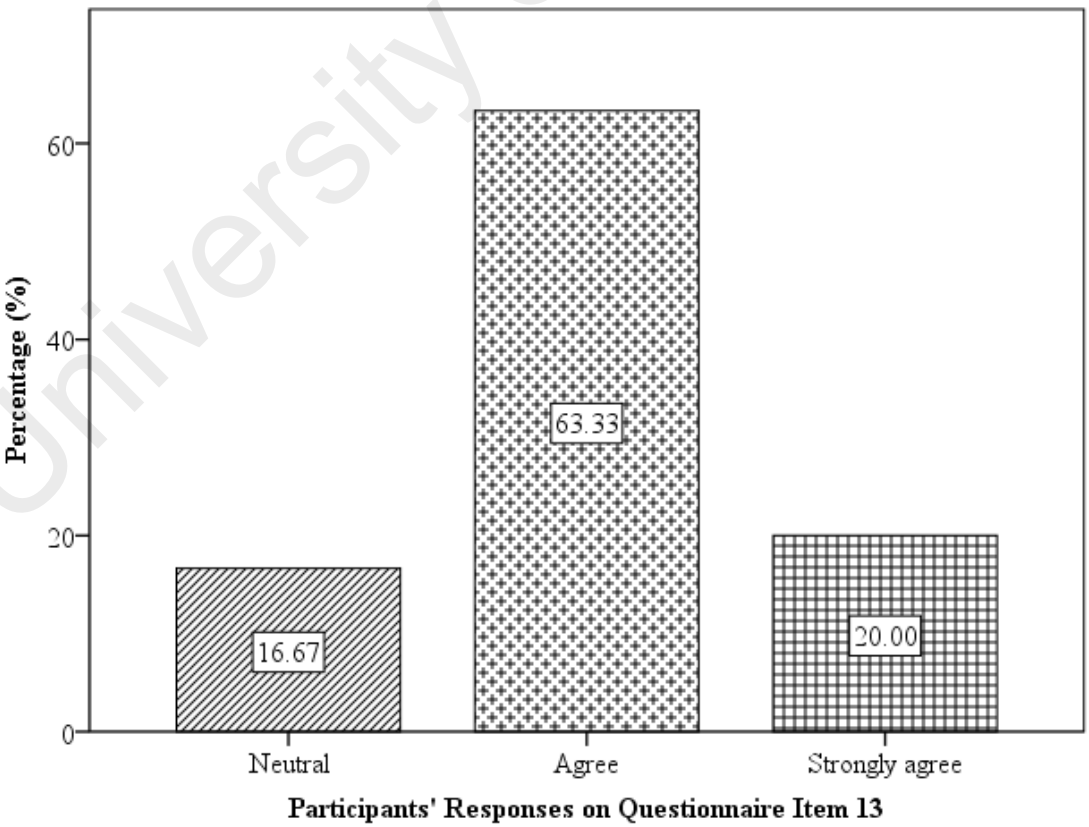

Table 4.28: Frequency count and percentage for students' responses on item 13 on their perspectives in using mobile phone for vocabulary acquisition

Table 4.19 and Figure 4.28 show that the highest percentage of respondents at 63.3%, agreed that they comprehended words and texts better through the use of mobile phones and 20% strongly agreed, while 16.7% gave neutral responses. In either way the percentages show that students did increase their vocabulary list, while it can be assumed from the neutral responses that it depends on the situation or task.

Item 14: I can remember and recall words better when I use mobile phone.

Table 4.20: Frequency count and percentage for students' responses on item 14 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Strongly disagree	1	3.3
Disagree	2	6.7
Neutral	9	30.0
Agree	17	56.7
Strongly agree	1	3.3
Total	30	100.0

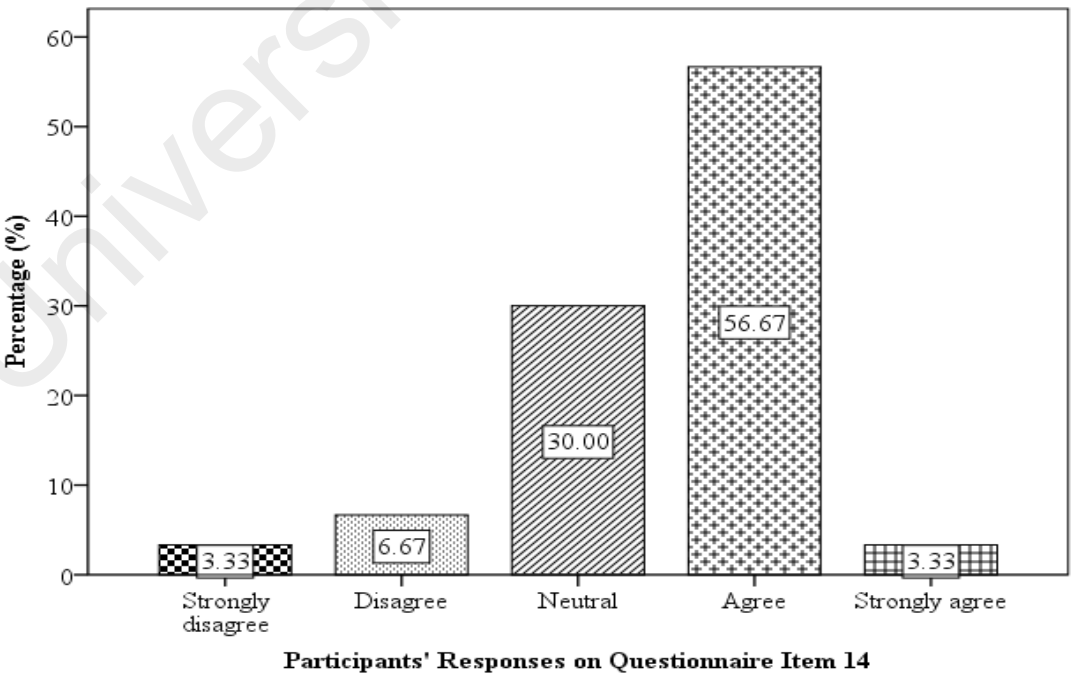

Figure 4.29: Percentage for students' responses on item 14 on their perspectives in using mobile phone for vocabulary acquisition

Table 4.20 and Figure 4.29 show that 56.7% of the learners agreed that they can remember and recall words better when they use mobile phone. Besides, 30% of the learners responded neutral and there were also learners who disagreed and strongly disagreed to this statement. Since it is a personal and subjective question, all perceptions on their preferences towards mobile phone usage in learning English were taken into consideration.

Item 15: Overall I believe using mobile phone in learning English is very effective.

Table 4.21: Frequency count and percentage for students' responses on item 15 on their perspectives in using mobile phone for vocabulary acquisition

Likert Scale	Frequency	Percent
Neutral	6	20.0
Agree	18	60.0
Strongly agree	6	20.0
Total	30	100.0

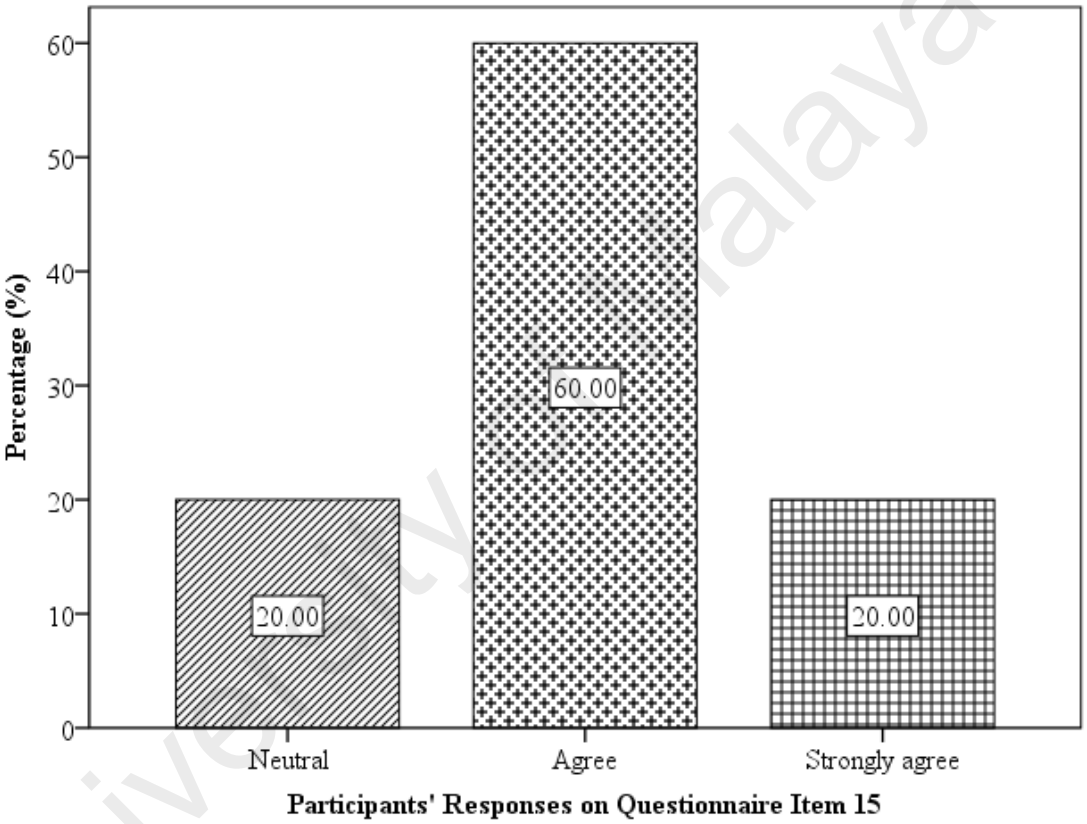

Figure 4.30: Percentage for students' responses on item 15 on their perspectives in using mobile phone for vocabulary acquisition

The findings on Table 4.21 and Figure 4.30 show that 60% of the respondents say that overall, they believe in the effectiveness of using mobile phone for vocabulary acquisition. 20% strongly agreed and another 20% responded neutral.

4.6 Interviews

Interviews were conducted with five English language teachers teaching the Intensive English Program (IEP). These interviews were very helpful in triangulating the data collected from the tests and questionnaires. The teachers were asked a total of five semi-structured interview questions. Based on their experiences each teacher was able to share other influential factors that affect students' vocabulary acquisition Responses given by the teachers were analyzed and related to students' performance in vocabulary acquisition through the use of mobile phones. The responses gained through interviews help to support and elaborate the findings from the tests, essays and questionnaire. The findings from the interviews help to answer and strengthen the two research questions in this study.

The first interview question was:

1. **What kind of mobile phone applications or dictionaries do students employ while learning English with mobile technology?**

   The teachers agreed that the vast majority of their students learning English use their mobile phones in the classroom.

   Interview responses from teachers clearly showed that students used various kinds of dictionary applications on their mobile phones. They mainly use these applications to look for meaning of new vocabularies. Based on the teachers' responses, the most commonly used mobile dictionary applications were Oxford Dictionary of English, Dictionary.com, Dictionary Word Web and Bravolol Language Learning. However, in this study, it was standardized that all participants used the same mobile dictionary application. This was to ensure all students were exposed to the same dictionary application on their mobile phones.

The second interview question was:

2. **What are the different problems or issues that can be seen in students' performance between students using mobile phones and those who do not?**

The teachers interviewed gave various answers to this question. Looking at mobile phone usage during English lessons, teachers found out that technical hitches, such as small fonts and limited space on the screen, were just some of the known limitations students faced when using such devices for learning. This can be supported with Kieman and Aizawa (2004) who found that limited number of words, language quality seen on screen, and limited message lengths are the limitations in using mobile phones as an effective learning tool. This can be strengthened with a study by Thorton and Houser (2005) which showed that mobile phones' tiny screens are one of the mobile phone's limitations as a learning tool. These physical limitations may also hinder a student's enthusiasm in trying to fit the definition of the word in terms of the context of their reading material. For example, words with multiple and often diverse and jarring definitions such as "deal" as both a verb or a noun may be difficult for students as they try to navigate the screen by scrolling up and down to read the small fonts and tiny screens as they attempt to comprehend the word's meaning in the context of their reading article.

Looking at the other side of the coin, the teachers mentioned that social constraints do become an issue in acquiring vocabulary through mobile phones. Students tend to get distracted doing other tasks on mobile phones such as playing games, chatting, listening to music and accessing social media networks which lead students to not focus on the lesson. Teachers have to control the classroom and observe each students' activities. Social media networking applications are a staple in the landscape of students' mobile phones and smartphones. Hence, the popping up of messages and notifications of incoming messages and tags may momentarily distract students when

they are in the process of searching for the definition of a new word. This disrupted train of thought may often cause students to abandon their reading momentarily and concentrate on the more pleasurable activity of interacting with their friends and family.

This statement can be supported with a study carried out among undergraduate TESOL students at a central US university. This study gives a constructive outlook of the capability of learners in using such technological devices regarding Mobile Language Learning. From the participants' view, there are greater potentials for mobile connectivity and communication during a task as it becomes more pervasive. Besides, other researchers (Cavus & Ibrahim, 2009; Lu, 2008; Stockwell, 2010) also have reported favourable answers "to the use of mobile devices for language learning because these devices" have the flexibility and discernible convenience. Certain costs incurred due to the device or its related services which may cause students to have limited access to the applications on their mobile devices are some practical problems that also exist.

Frustration with new technology was also experienced by the participants in this study, when used as a learning device. Even though this does not directly imply whether or not mobile learning applications should be further refined, it is vital to keep in mind that regular "access to mobile technologies (including new mobile devices) for learning at home" may not be available to all. As an example, one participant commented, "Never assume that all students have access to all new technologies". Therefore, there are certain constraints to be considered. The reliance on technology can also be crippling in the instances when external factors such as wireless internet connection is concerned. Students may not feel the need to carry a physical dictionary or even download a dictionary into their phone due to the fact that they already have a functioning online dictionary application. When the environment that they are in fails

to provide wireless internet connection, technology which can benefit students also immediately cripples them.

Other than that, two out of the five teachers also mentioned that students tend to feel sleepy if they were using their mobile phones for a long time. According to the teachers' responses, they claim that "overuse of mobile phones affects students' capabilities to study" and can lead them to fall asleep during the lesson. Following a research conducted in Japan in November 2015 "with 23,139 participants from the fifth grade of primary school up to the third year of high school, in 771 public schools nationwide", too much mobile phone usage can lead to poor results in all school levels. Reason being, students lost concentration because they did not get enough sleep. The phones also compromised whatever they had studied. The students' sleeping patterns changed somehow, for those who spent hours looking at the phones. This is not surprising as phone usages are addictive thus making students go to bed late. A good example from the aforementioned research is the statistics it discovered, in which"53.5% of junior high students who said they use a mobile phone for more than four hours a day to talk, send emails or surf the internet, habitually do not go to sleep until after midnight. That ratio was much lower, at 14.9 percent, for those who do not use mobile phones at all".

Alongside this, the overuse affects "the quality of students' sleep". Students were enquired whether it was difficult to get out of bed in the mornings, and "78.1 percent of junior high students who often watch or use electronic devices, including TVs, game consoles, mobile phones and computers immediately before bedtime, said they sometimes or frequently do have trouble" waking up the next morning. This is matched to 60.9%who do not use gadgets at all.

According to Junichi Sato, "an education board official who led the project, which was jointly carried out by the city of Sendai and Tohoku University", a student's performance in school is negatively affected by this sleep deprivation (Japan Times, 2015).

This research was published in March 2015 and it emphasized the connection "between studying and smartphone usage"; leading to the finding that an extended phone usage disrupts a student's studying regularities. Also, sleep deprivation equates to lessened study time.

Referring to the same study mentioned above, "students who spent over two hours every day studying and using messaging apps, especially the popular Line application, scored badly on a math exam than those who spent less than 30 minutes a day, but did not use a smartphone at all".

"When people talk about children using smartphones in a negative sense, their main concern seems to be about their criminal use, but this study calls the attention of parents and students to the risk that excessive use of smartphones can compromise students' ability to study," Sato said. Sato warns "the optimal period of mobile phone usage to be restricted to just an hour a day". It can be said that this does not only occur among young learners (school students) but also among teenagers or young adults studying in universities (tertiary level learners). Therefore, it gives a future advice to limit the hours of mobile phone usage in the classroom to make sure there is balance "in the use of technology in order for effective learning" to take place.

Young adults in tertiary education are also frequent and active participants on social media networking sites and therefore are much more susceptible to the relentless and endless notifications and updates. Social media like Twitter, Facebook and Instagram are constantly competing for the attention of young adults, therefore reducing the

young adults' attention span on their studies. This omnipresence of distraction is also amplified with the usage of smartphones and mobile phones in which the updates and notifications reach the young adults no matter where and what time of the day it is.

The third interview question was:

3. **Are the students better learners if they have limited vocabulary? What is your opinion on this? State your reasons.**

Three out of five teachers answered 'No' to this question. According to them, students with a wide knowledge on vocabulary perform better in communication, writing and reading activities. They find it easier to comprehend information and instructions. The three teachers also commented that students with stronger vocabularies are more likely able to tackle topics in which they were not hitherto exposed to. This is because, the students are able to accommodate foreign ideas and new information due to their expended vocabulary and their ability to assimilate these new ideas and information into their existing ones. The other two teachers gave neutral answers saying that it is not only depended on the students' proficiency levels, but other factors as well. They also mentioned the fact that students need to have content in order to maintain a smooth flow of conversation. On the contrary, they did mention that "vocabulary acquisition plays a vital role in learning" English. Students who know more words tend to make mistakes too. A problem that all teachers noticed was that several students could not use some words within proper contexts. This study has been able to find out if mobile phones effectively help in vocabulary acquisition. Pre-test and post-test scores show a growth in performance yet some words were not able to be used by students correctly in context.

Studies showed that teachers need to significantly increase the "need for vocabulary instruction at all grade levels. The number of words that students need to learn is

exceedingly large; on average, students should add 2,000 to 3,000 new words a year to their reading vocabularies" (Beck, McKeown & Kucan, 2002). However, there were significant obstacles to developing sufficient vocabularies for some categories of students in order to perform well at school. The first factor concerns students who had inadequate or zero English knowledge. As 'textbook English' varies from casual spoken English, students may feel challenged as they "try to make sense of the English they read, especially at the middle and high school levels", (Sedita, 2005).

A second factor is when there is no external input beyond the classroom. Reading time and the reading amount are correspondingly significant to be taken account of. "For example, a student who reads 21 minutes per day outside of school reads almost 2 million words per year," while "a student who reads less than a minute per day outside of school reads only 8,000 to 21,000 words per year" (Texas Reading Initiative, 2002).

The next factor is the disabilities in reading and learning. Students who are weak "in phonemic awareness, phonics, and word analysis skills" will be left out "from reading grade-level content material and the rich opportunity this offers for encountering new, content-related words that can only be found in written English".

Another factor is students who enter school with inadequate vocabulary knowledge. "At first-grade, high-performing students know about twice as many words as low-performing students, but that difference increases each year, resulting in high-performing 12th grade students knowing about four times as many words as the low performing 12th graders" (Hart & Risley, 1995). Language instructors, therefore, need to utilise good vocabulary lessons and supportive technology.

Therefore it cannot be generalized that all students equipped with an increased vocabulary knowledge are better learners than the ones with limited vocabulary without knowing the challenges they face.

"Socioeconomic backgrounds and the language used in their homes and communities can significantly influence opportunities to expand their vocabularies, thus, the students vary widely in the word knowledge that they bring to school," as claimed and strengthened by Sedita, 2005. Socioeconomic backgrounds are also directly influenced by the parents of the students and also relatives- especially the ones who live with them. The parents and such relatives bring context and also vocabulary to the students' command of the language. Thus it is not surprising that students with more educated parents demonstrate larger vocabulary and also possess an ease in tackling topics of a more intellectual level. The reason is that parents, in the responsibility to educate and pass down knowledge, values and ideas to their children, often consciously insert more intellectual topics in their daily interaction. On the other hand, students whose parents are not as educated, will not benefit from such a prime chance of acquiring knowledge.

Language-based learning disabilities may also hamper some students from increasing their vocabulary knowledge. "Good oral vocabulary (words we use when speaking and listening) is linked directly to later success in reading, and students who have more vocabulary knowledge in kindergarten become better readers than those who have limited vocabulary" (National Institute for Literacy, 2001).

"There is a significant gap in the vocabulary knowledge that some students bring to the primary grades, and that gap widens as students, progress through the grades. Students who lack adequate vocabulary have difficulty getting meaning from what

they read, so they read less because they find reading difficult. As a result, they learn fewer words because they are not reading widely enough to encounter and learn new words. On the other hand, students with well-developed vocabularies read more, which improves their reading skill, and they learn more words. Weak decoding skills (phonemic awareness, phonics and word study, fluency) also contribute to the gap between how much good and poor readers will read and encounter new vocabulary. Over time, poor readers fall further behind, as Keith Stanovich (1986) termed this situation as the "Matthew Effect" with "rich get richer, poor get poorer" consequences.

This study has discovered other factors to be considered while teaching and acquiring vocabulary. This helps to understand the problem learners face in high level group of words and choice of vocabulary that each learners have.

The fourth interview question was:

4. **What are the factors that motivate or demotivate a student to use mobile phones in vocabulary acquisition?**

Each teacher listed a few factors based on their experience towards this issue. Being able to access the internet anytime, anywhere and getting immediate responses on definition or meaning are factors that motivate a student to use mobile phones in vocabulary acquisition. It is also student-centered. On the contrary, there are factors that hinder or demotivate students to use mobile phones or being obliged to use mobile phones. Factors such as malfunction of applications, phone hangs, and phone calls are interference during lesson.

The term "digital natives" was derived by Prensky (2001). Until we reach this stage where learners become more accustomed to learning through computers than

traditional means, there is an urgent requirement to reassure the comfortability of learning with mobile devices, thus we would have to plan lessons mindful of the present technology available. Unfortunately, until we address the pressing issue where smartphones were not designed with education in mind, thus making it hard to be used for learning tasks, as Kukulska Hulme (2005) argues.

Teachers also mentioned about how students tend to surf the internet to go to other social websites like YouTube and Facebook. This motivates them to utilise the mobile phones but demotivates them to study. This leads students to not focus on the lesson conducted in classroom. According to Kibona & Mgaya (2015), mobile technology in a worldwide perspective can be said to be changing rapidly and is being integrated into our society at such an accelerated rate, it is hard to keep up with it, let alone reflect on the effects it has on our lives. Although social websites such as Facebook, YouTube, and Twitter, did not exist a mere decade ago, they are now prevalent and main forms of media and communication in our culture.

Despite the many undesirable effects of these social networking sites, the same networking sites can also be used in an active and running discussion centers in which students can continuously be involved in particular topic of conversation. The teacher in return can act as the moderator of the discussion and grade the students on the accuracy of their grammar, appropriateness of their vocabulary and ability to stick to the theme and topic of their discussion. Social networking sites also able to foster closer friendships amongst students in the class as they can surf their friends' pages and find out if they do share similarities and hobbies.

Obviously addiction to technology is a problem that seriously needs to be treated, especially in the secondary school level, because adolescents are more prone to addiction. A few years ago, internet addiction was a top issue. Researchers have proposed various kinds of research such as new addiction measurement scales and have taken a closer look at environmental or personal factors that cause addiction to progress in order to curb the addiction and to provide new educational methods for secondary school students (Kwon, et. al, 2013; Park & Lee, 2011).

Today's "iGeneration", or the generation of teenagers born in the 1990s, is the most connected generation ever. These "iGeneration" teens are digital natives born in an era of a massive rush of technology. A world that does not include the Internet and easy access to technology is unheard of. Parents of the "iGeneration" youth, however, are "digital immigrants". This cannot be avoided but it can be reduced and controlled. Classroom management and instructions provided during English lessons in an ESL classroom play a vital role. Teachers should be able to monitor the students and make sure they are using the mobile phones in completing a task and assisting them in vocabulary acquisition.

Thus, mobile learning has both advantages and disadvantages. Therefore, it can be strongly said that mobile technology does contribute to educational benefits although most of the people out there only look at the entertainment side.

The fifth interview question was:

5. **Do you think using mobile phones are really effective in vocabulary acquisition? Why?**

All five teachers agreed that mobile phones are really effective in vocabulary acquisition. Using mobile phones helps students to read and comprehend reading texts effectively. However, in writing task, students face problems to use the vocabulary in context. Therefore, this area needs improvement. Mobile phone is an effective learning tool for vocabulary acquisition, however, students later on face problems in using those words correctly in context. It can be implied that mobile phones have made vocabulary acquisition more convenient that leads to vocabulary expansion, which will help motivate learners to acquire vocabulary.

However, the teachers' feedback on students using words correctly in context can be linked to the findings that show that vocabulary acquisition actually involves internalising the written form and the meaning of a word and having the ability to retrieve it back from memory. The ability of such retrieval from the cognitive perspective, largely depends on the effective use of the short term and long term memory (Zhang et.al. 2011). Furthermore, short-term memory (STM), which is also referred to working memory, refers to "representations that are currently being used or have recently used and last for a short duration" (Proctor & Vu, 2003, p. 43). It is characterized by its limited capacity, in which received input stays transiently and slips away unconsciously. Conversely, long-term memory (LTM) refers to "representations that can be remembered for durations longer than can be attributed to STM. LTM can involve information presented minutes ago or years ago" (p. 44).

The five teachers also mentioned that difficulty of using the newly acquired words in context can be solved by assigning more reading material to the students. They also

opined that it is even a larger step forward if the teachers were able to cultivate a reading habit in the students themselves. By reading more or having a reading habit, students will be able to consolidate the new words that they have learned, from using their mobile phone applications, and be able to use them correctly and accurately in a context. By reading more, students will also be able to fit words with multiple definitions into the context quickly and efficiently. This may not happen as easily for students who do not read as much or do not read at all simply because they are too fixated to just one definition of a word with multiple definitions.

4.7 Conclusion

This chapter outlines the findings obtained from the instruments used in this study. The findings from pre-tests and post-tests, essays and questionnaire on mobile phone preferences and the findings from the interviews are presented and discussed in this chapter. The findings have answered the research questions in this study. The next chapter will be the conclusion and recommendation for further research. This chapter ends with a conclusion.

CHAPTER 5: CONCLUSION

5.1 Introduction

The outcomes found in this study is summarised in this chapter. This chapter also presents the implications of the research outcomes. Lastly, the limitations of the study and recommendations for future research are outlined towards the end of the chapter.

5.2 Summary and Discussion of Findings

The summary and discussion of findings in this chapter are based on the research objectives and research questions that have been constructed earlier in this present research. The research objectives are: 1) To identify if learners exhibit better understanding of vocabulary through the use of mobile phones; 2) To understand learners' perceptions on learning vocabulary with the use of mobile phones. Meanwhile, the research questions that outlined this study are: 1) How do the second language learners use the mobile phone for vocabulary acquisition? and 2)What are the learners' perceptions on learning vocabulary using mobile phones?

The study navigates learners' use and how they perceive the mobile phone application dictionaries. It is hoped that the choices students make in using the different digital instruments in their language learning would be better understood through the findings of this research. Hence, language teachers can be better prepared in their instructional designing especially when getting their students acquainted with online learning resources.

It can be clearly seen that mobile phones have already become a popularly or most used device. The increase in features and the decrease of the prices of mobile phones are

key reasons that enabled them to become well-favored. Mobile phones are popular not just for communicative purposes. They are well-used in the education field as well. Vocabulary acquisition is the fundamental part of learning a language and this is one of the reasons that makes every students carry their mobile phones with them as a learning tool. This helps them to check the meaning of a new vocabulary acquired from any place. Therefore, this study attempted to study and examine how mobile phone helps in vocabulary acquisition and to determine the effectiveness of mobile usage and learners' perceptions in using it.

Several perceptions on the quality of the mobile phone English dictionary application were found. Specifically, this mobile dictionary is free and easy to access which make learners considered it to be positive. It is also convenient; on the other hand, it often encourages over-dependence. The mobile phone application dictionary can help learners to look up for words quickly which cannot be done with a hard copy dictionary. Nonetheless, it leads to the fact that it would not be so important to remember the words and meanings. So it becomes harder to actually internalize the new words.

The study showed that students basically had limited knowledge on vocabulary and their sentences were sometimes incomprehensible. Therefore, as a conclusion these students have problems in acquiring words in English and using them correctly in context. This study highlights the ways which students internalize the way a vocabulary is acquired and used. Besides, it also shows the general language issues that students may have. Being able to identify the ways students internalize words and problems faced by students; help teachers to concentrate on students' issues on not being able to comprehend the words correctly. This awareness about problems that students face when learning will be useful for language instructors. Instructors would now be able to locate the problematic

areas in ELT. This information is definitely useful for preparing suitable materials for language lessons. Teachers will be capable of predicting the ways students understand certain words to a certain degree. Language Instructors will be better-prepared to reduce or solve the learning difficulties of their respective students. Likewise, research so far shows that "the acquisition of the English language as a 'secondary' or 'additional' language" consists of a lengthy period of effort, in which the language learners would need a few years and sometimes perhaps even more than that in order to attain a good level in English for academic needs (Bailey, 2010; Cummins, 1991; Thomas & Collier, 2002). It is not an easy path for the students from a foreign country to learn English in an ESL context.

Through the interview responses from the teacher, the study also identified three patterns in the usage of the mobile phone, which are as follows; (1) use for sociability; (2) use for entertainment, and; (3) use for time coordination. These categories also overlap with previous research. A good instance would be the case in the entertainment category where there are many types of social elements involved. For early learners, they might need help in learning how to use the application. This can be considered as one of the limitations where students needs the knowledge on the mobile application.

Thus, language teachers can use them effectively when conducting lessons. In fact, some findings (e.g., Chun, 2001; Lenders, 2008; Loucky, 2010) say that "online glossaries" could be a development tool for low-proficiency students, particularly for the reading skill. These beginner level learners should be warned that some dictionaries may not supply the meanings of words that can be used in multiple contexts. This is to encourage the learners to make use of the translation software and websites available online which are convenient and time-savvy. Moreover, teachers coaching ESL "can

encourage learners' critical thinking and gauge their development of awareness and metalinguistic knowledge by guiding in-class of the instances" in which mobile application dictionaries "provide inaccurate, and even humorous, translations", (Li & Elizabeth Deifell, 2013).With this, activities to engage the learning process can be designed to lead those of high proficiencies to make use of these digital learning facilities such as online translators and mobile application dictionaries. This eases the acquisition task. This might help learners to better comprehend words in different contexts.

5.3 Implications of the Study

The findings show that the Oxford for English mobile phone application dictionary is important in vocabulary acquisition in second language learning as it mobilizes the pursuit of goals and influences the attitude, desires and efforts of an ESL learner. However, there are factors that inhibit the usage of those words in context. Students may need more of critical thinking and vocabulary knowledge to understand the words in context. Due to this, an English teacher should be mindful of the presence and significance of vocabulary acquisition of second language learning process especially among the lower level language learners. Teachers should be able to identify students' preferences towards mobile platform in order to help the second language learners to sustain the process of learning, invest a certain amount of effort and perform a particular action.

5.4 Recommendations for Future Research

It is suggested that forthcoming explorations should involve more participants, if possible students from every level in the Intensive English program. If this can be done, then the findings can be generalized to a wider population.

Further studies on other mobile applications enhancing vocabulary acquisition can be investigated among students from other nationalities who signed up in the 'Intensive English Program' (IEP). The findings can be compared and thus can add knowledge to teachers especially those involved in the program. In addition, the findings can provide insights on different factors that influence students from other languages or background.

In addition, the usage of various digital resources (including other online dictionaries) by Foreign Language learners could be done by observing them completing certain tasks. Other online pedagogical resources such as Blackboard and The Flipped Classroom can also be looked into. Besides, how ESL students of different levels feel about online mobile dictionaries will be worth looking into. The present research found the emergence of the interest and usage of the learner on online English dictionary applications. Thence, further research could be done to see which of this type of dictionaries are most preferred and in what way they are made use of, for ESL learning.

5.5 Conclusion

This chapter has presented the summary and discussion of the findings. Each of the findings is presented accordingly following the research questions. The findings point out that the students responded positively to the use of mobile application dictionary to acquire English vocabulary. Students seem to be confident with this. However, they also struggle when it comes to the output. The findings also demonstrated a sturdy relationship between mobile usage and vocabulary acquisition; that there is a noteworthy connection

between both. This shows that mobile phone application does play a role in contributing to language learning achievement. This chapter also indicated the implications and limitations for this study. Recommendations for future studies are also included. This research hopefully contributes to the knowledge of mobile phone usage for vocabulary acquisition, its orientation, and how it affects second language learning and second language achievement.

REFERENCES

Aamri, A., & Suleiman, K. (2011). The Use of Mobile Phones in Learning English Language by Sultan Qaboos University Students: Practices, Attitudes and challenges. *Canadian Journal on Scientific & Industrial Research, 2*(3), 143-152.

Abdulhafeth A. Khrisat & Salameh Saleem Mahmoud. (2013). Intergrating Mobile Phones into the EFL Foundation Year Classroom in King Abdulaziz University/KSA: Effects on Achievement in General English and Students' Attitudes. *English Language Teaching*, 162-174.

Akın, A., & Seferoğlu, G. (2004). Improving learners' vocabulary through strategy training and recycling the target words. *Hacettepe University Journal of Education*, 27, 1-10.

Ainol Madziah Zubairi, & Isarji Hj Sarudin. (2009). Motivation to learn a foreign language in Malaysia. GEMA Online Journal of Language Studies, 9(2), 73-87.

Alamer, A. (2015). The Role of EFL Learners' Motivation in Mobile Language Learning. First International Conference on Theory and Practive , 142-153.

Alqahtani, M. (2015). The Importance of Vocabulary in Language Learning and How to be Taught. *International Journal of Teaching and Education*, *III*(3), 21-34.

Alzahrani, H. (2015). Examining the Effectiveness of Utilizing Mobile Technology in Vocabulary. *Arab World English Journal (AWEJ)*, 108-119.

Anaraki, F. B. (2008). A flash-based mobile learning system for English as a second language. ABAC Journal, 28(3), 25-35.

Arlina Ahmad Zaki & Melor Md Yunus. (2015). Potential of Mobile Learning in Teaching of ESL Academic Writing. *English Language Teaching*, 8(6), 11-19.

Arnaud, P. & Bejoint, H. (1992).Vocabulary and Applied Linguistic. Basingstoke: Macmillan. Berne, J. I. & Blachowicz, C. L. Z.(2008)What reading teachers say about vocabulary instruction: Voices from the classroom. The Reading Teacher 62 (4).314-323.

Arthur, N. (2004). *Counselling international students. Clients from around the world*. New York: Kluwer Academic/Plenum Publishers.

Auchey, F.L., Mills, T.H. and Beliveau, Y.J. 2000. Using the learning outcomes template as an effective tool for evaluation of the undergraduate building construction program, Journal of Construction Education, Vol. 5(3) 244-259.

Asmah, H. 0. (1992), "The Linguistic Scenery in Malaysia", Dewan Bahasa dan Pustaka. Kuala Lumpur.

Attewell, J. (2005). From Research and Development to Mobile Learning: Tools for Education and Training Providers and their Learners. *Proceedings MLearn 2005 - Mobile Technology: The future of learning in your hands*, 1-6.

Bailey, A. (2010). Implications for assessment and instruction. In M. Schatz & L. C. Wilkinson (Eds.), The education of English language learners: Research to practice (pp. 222–247). New York, NY: Guilford Press.

Barratt, M.F. and Huba, M.E. (1994). Factors related to international undergraduate students adjustment in an American community. *College Student Journal*, 28, 422-435.

Başoğlu, E. B., &Akdemir, Ö. (2010). A Comparison of Undergraduate Students' English Vocabulary Learning: Using Mobile Phones and Flash Cards. *TOJET: The Turkish Online Journal of Educational Technology*, *9*(3), 1-7. Retrieved from http://fatmaunkur.edublogs.org/files/2011/06/931-pw9n12.pdf

Bayley, S., Fearnside, R., Arnol, J., and Rottura, R. (2002). International students in Victorian University. *People and Place,* 10 (2), 45-54.

Beck, I.L., McKeown, M.G., & Kucan, L. (2002). Bringing words to life: Robust vocabulary instruction. New York: Guilford Press.

Bensoussan, M., &Laufer, B. (1984).Lexical Guessing in Context in EFL Reading Comprehension.*Journal of Research in Reading*, *7*(1), 15-32. Retrieved from http://ezproxy.uno.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ297938&site=ehost-live&scope=site

Braguglia, K. H. 2008. Cellular telephone use: A survey of college business students. Journal of College Teaching & Learning 5: 55–61.

Brown, T.H. (2005). Beyond constructivism: Exploring future learning paradigms. Education Today, issue 2 of 2005, Aries Publishing Company, Thames, New Zealand.

Browne, C. (2003). VOCABULARY ACQUISITION THROUGH READING, WRITING, AND TASKS: A COMPARISON. 1-86

Browne, C. & Culligan, B. (2008). Combining technology and IRT testing to build student knowledge of high frequency vocabulary. The JALT CALL Journal, 4(2), 3–16.

Bruner, J. S. (1966). Toward A Theory of İnstruction, Cambridge, Mass.: Belknap Press of Harvard University.

Bruton, A. (2007). Vocabulary learning from dictionary reference in collaborative EFL translational writing. System, 35, 353-367.

Bull, S. (1994). Student modelling for second language acquisition. Computers & Education, 23(1/2), 13–20

Burton, S., & Nesbit, P. (2002, November). An analysis of student and faculty attitudes to intensive teaching. Paper presented at the Celebrating Teaching and Macquarie, Macquarie University.

Büyükikiz, K.K. & Hasırcı, S. (2013) Yabancı Dil Olarak Türkçenin Öğretiminde Sözcük Öğretimi Üzerine Bir Değerlendirme, Mustafa Kemal University Journal of Social Sciences Institute, 10 (21), 145-155

Byrnes, J.P. (1996) Cognitive development and learning in instructional contexts. Boston: Allyn and Bacon.

Cameron, L. (2001). Teaching Languages to Young Learners. Cambridge University Press.

Cameron, J.W. (2002). *International students in Victoria Universities*. Australia: Auditor General Victoria.

Can, T. (2009). LEARNING AND TEACHING LANGUAGES ONLINE: A CONSTRUCTIVIST APPROACH Tuncer CAN. *Education*, *3*(1), 60-74. Retrieved from http://novitasroyal.org/Vol_3_1/can.pdf

Carter, R., & McCarthy, M. (Eds.). (1988). *Vocabulary and language teaching*. London: Longman.

Cavus, N., & Ibrahim, D. (2009). M-Learning: An experiment in using SMS to support learning new English language words. *British Journal of Educational Technology*, *40*(1), 78-91.

Channell, J. (1981). Applying semantic theory to vocabulary teaching.*ELT Journal, 35*, 115-122.

Chanprasert, C. & Han, H. (2013). Learning on the move: The use of mobile technologies for language skill development. *Executive Journal*, 34(1), 98-107.

Chen, C. M., & Chung, C. J. (2008). Personalized mobile English vocabulary learning system based on item response theory and learning memory cycle. Computers & Education, 51(2), 624–645.

Chen, X.-B. (February 2013, Volume 17, Number 1). Tablets for Informal Language Learning: Student Usage and Attitudes. *Language Learning & Technology*, 20-36.

Chen, N.-S., Hsieh, S. W., & Kinshuk. (2008). Effects of short-term memory and content representation type on mobile language learning. Language Learning & Technology, 12(3), 93–113.

Cheung, C., Y. (2007). The effectiveness of vocabulary learning strategies of Chinese low achievers (Unpublished Master Thesis). Hong Kong University, Hong Kong.

Chinnery, G. M. (2006). Going to the MALL: Mobile Assisted Language Learning. *Language Learning & Technology, 10*(1), 9-16. Retrieved from http://www.llt.msu.edu/vol10num1/pdf/emerging.pdf

Choi, L., 2005. Literature review: issues surrounding education of English-as-a-second language (ESL) nursing students. *Journal of Transcultural Nursing* 16 (3), 263–268.

Chun, D. (2001). L2 reading on the Web: Strategies for accessing information in hypermedia. Computer-Assisted Language Learning, 14(5), 367-403. doi:10.1076/call.14.5.367.5775

Crescente, Louise, M., Lee, Doris (2011). "Critical issues of m-learning: design models, adoption processes, and future trends". *Journal of the Chinese Institute of Industrial Engineers*. **28** (2): 111–123.doi:10.1080/10170669.2010.548856

Coady, J., & Huckin, T. (Eds.), (1997). Second language vocabulary acquisition. Cambridge: Cambridge University Press.

Cobcroft, R. S. (2006). Literature review into mobile learning in the university context.

Colley, J., & Stead, G. (2004). Mobile learning = collaboration. Proceedings of MLearn 2004: Mobile learning anytime everywhere (pp. 57–58). London: Learning and Skills Development Agency.

Collins, T. English class on the air: mobile learning with cell phones. In. Proceedings of the fifth IEEE international conference on advanced technologies, (2005) pp.203–204.

Commission, M. C. (2015). Hand Phone Users Survey 2014. Cyberjaya, Selangor: Malaysian Communications and Multimedia Commission.

Constantinescu, A., I. (2007). Using Technology to Assist in Vocabulary Acquisitionand Reading Comprehension. The Internet TESL Journal, XIII (2),122- 133.

Creswell, J. W. (2008). Editorial: Mapping the Field of Mixed Methods Research. *Journal of Mixed Methods Research*.

Cummins, J. (1991). Language development and academic learning. In L. Malave & G. Duquette (Eds.), Language, culture and cognition (pp. 167–175). Clevedon, England: Multilingual Matters.

Daniel, E. L. (2000). A review of time-shortened courses across disciplines. *College Student Journal*, 34(298-308).

De Mooij, M. (2005). Global marketing and advertising: understanding cultural paradoxes (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Demirel, Ö. (2004) Yabancı Dil Öğretimi. Ankara: Pegem A Publishing.

Diamond, L. &Gutlohn, L. (2006). Vocabulary Handbook.Consortium on Reading Excellence, Inc. Reproduction of this material is prohibited without permission from the publisher.

Doğan, Y. (2014) Yabancılara Türkçe Kelime Öğretiminde Market Broşürlerinden Yararlanma, Journal of Language and Linguistic Studies, 10(1), 89-98

Dörnyei, Z. (2007). *Research Methods in Applied Linguistics*. *International Journal of Applied Linguistics* (Vol. 19, pp. 207-209).

Driscoll, P.M. (2000). Psychology of Learning for Instruction. Allyn & Bacon: Massachusetts.

El-Hussein MOM & Cronje JC 2010. Defining mobile learning in the higher education landscape. *Educational Technology & Society*, 13(3): 12-21. Available at http://ifets.info/journals/13_3/3.pdf. Accessed 10 November 2015.

Elola, I., Rodríguez-García, V., & Winfrey, K. (2008). Dictionary use and vocabulary choices in L2 writing. Estudios de Lingüística Inglesa Aplicada, 8, 63-89. Retrieved from http://institucional.us.es/revistas/elia/8/6.%20elola%20def.pdf

Ellis, R. (1985). Understanding second language acquisition. Oxford: Oxford University Press.

Ellis, R. (1990). Instructed second language acquisition. Oxford: Blackwell.

Engeström, Y. (1987). Learning by expanding: An activity-theoretical approach to developmental research. Helsinki: Orienta-Konsultit.

Er, M. and Kay, R. (2005) Mobile technology adoption for mobile information systems: an activity theory perspective. In International Conference on Mobile Business (ICMB'05). Sydney, Australia: IEEE.

Erten, İ. H., & Tekin, M. (2008). Effects on vocabulary acquisition of presenting new words in semantic sets versus semantically unrelated sets. System, 36, 407-422.

Folse, K.S., (2006). The Effect of Type of Written Exercise on L2 Vocabulary Retention, TESOL Quarterly, 40 (2), 273- 293.

Fortunati, L. (2001). The Mobile Phone: An Identity on the Move. Personal and Ubiquitous Computing 2001(5), pp. 98–85.

Fransen, J. (2008). Mobile learning: een verkenning: Stand van zaken en verwachtingen voor de nabije toekomst. [Mobile Learning: an exploration; State of the art and expectations for the near future]. Technical Report.

Geddes, S. (2004). Mobile learning in the 21st century: Benefit for learners http://flexiblelearning.net.au/knowlegetree/edition06/html/pra_simon_geddes.html

Genç, B. (2004). New trends in teaching and learning vocabulary. ÇukurovaÜniversitesiSosyalBilimlerEnstitüsüDergisi, 13(2), 117-126.

Gill, Saran K. (2002). International Communication: English Language Challenges for Malaysia. Serdang: Universiti Putra Malaysia Press.

Godwin-Jones, R. (2011). Emerging technologies: Autonomous language learning. Language Learning & Technology, 15(3), 4-11. Retrieved from http://llt.msu.edu/issues/october2011/emerging.pdf

Goorhuis-Brouwer, S., & De Bot, K. (2005). Heeft vroeg vreemde-talenonderwijs een negatief effect op de nederlandse taalontwikkeling van kinderen. Levende Talen, 6(3), 3–7.

Gregg, K. (1984). Krashen's Monitor and Occam's Razor. *Applied Linguistics*, 5(2), 79–100

Gu, Y. (2003a). Vocabulary learning in second language: person, task, context and strategies. *ElectronicJournal. TESL-EJ*, 7, 2, 1-26.

Gu, Y. (2003b). Fine brush and freehand: The vocabulary learning art of two successful Chinese EFL learners. *TESOL Quarterly*, 37, 73-104.

Harmon, J. M., Wood, K. D., & Keser, K. (2009) Promoting vocabulary learning with interactive word wall. *Middle School Journal*, 40(3), 58-63.

Hayes, L.H. and Lin, H.R. (1994). Coming to America: Developing social support systems for international students. *Journal of Multicultural Counselling and Development*, 22, 7-6.

Hart, B. & Risley, T.R. (1995). Meaningful differences. Baltimore, MD: Paul H. Brookes Publishing Co.

Hayta, F. (2014). An Examination of Language Learning Strategies with Reference to Computer and Mobile Phone Technology.

Henebry, K. (1997). The impact of class schedule on student performance in a financial management course. *Journal of Education for Business*, 73(2), 114-120.

Höflich, J. R. & Hartman, M. (Eds.) (2006). Mobile communication in Everyday Life: Ethnographic Views, Observations and Reflections. Berlin, Germany: Frank & Timme.

Hong-Nam, K., & Leavell, A. G. (2006). Language learning strategy use of ESL students in an intensive English learning context. *System, 34*(3), 399-415.

Hornby, M. S. (1995). The Turns of Translation Studies: New Paradigms or Shifting Viewpoints?. John Benjamins Pub Co.

Hu,Z. (2011) Vocabulary Learning Assisted by Mobile Phones: Perceptions of Chinese Adult Learners. *Journal of Cambridge Studies, 8(1),* 139-154.

Hulstijn, J. H., Holander, M., & Greidenus, T. (1996). Incidental vocabulary learning by advanced foreign language students: The influence of marginal glosses, dictionary use, and reoccurrence of unknown words. The Modern Language Journal, 80(3), 327-339. doi:10.1111/j.1540-4781.1996.tb01614.x

Hulstijn, J. and B. Laufer. (2001). Some empirical evidence for the Involvement Load Hypothesis in vocabulary acquisition. *Language Learning*, 51: 539-558

Interview, R. (2011). Pilot Testing Data Collection Instruments. *Pilot Testing Data Collection Instrument*s, (May), 1-2.

Ito, M. Okabe, D. & Matsuda, M. (2006) Personal, Portable, Pedestrian. Mobile Phones in Japanese Life. Cambridge: MIT Press.

Jack R. Fraenkel and Norman E. Wallen. (2010). How to Design and Evaluate Research in Education 7th Edition. New York: McGrawHill International Edition.

Jeffrey H. Kuznekoff, Stevie Munz & Scott Titsworth (2015) Mobile Phones in Classroom: Examining the Effects of Texting, Twitter, and Message Content on Student Learning,Communication Education 64:3, 344-365, DOI: 10.1080/03634523.2015.1038727

J.F.Fazeena, K.P.Hewagamage, Y. Ekanayake. (2012). Suitability of Mobile Learning to enhance English language learning: A survey among University of Colombo School of Computing Students.

JoDee Waltersy, Neval Bozkurt. (2009). The effect of keeping vocabulary notebooks. *Language Teaching Research 13, 4*, 403-423.

Joe, A. (1995). Text-based tasks and incidental vocabulary learning. *Second Language Research,* 11(2), 149-158.

Joseph, S., & Uther, M. (2006).Mobile language learning with multimedia and multi-modal interfaces.*Proceedings - Fourth IEEE International Workshop on Wireless, Mobile and Ubiquitous Technology in Education, WMUTE 2006* (pp. 124-128).

Joseph, S. R. H., &Uther, M. (2009). MOBILE DEVICES FOR LANGUAGE LEARNING: *Research and Practice in Technology Enhanced Learning*, *4*(1), 7-32.

Kasesniemi, E.-L. & Rautiainen, P. (2002). Mobile Communication of Children and Teenagers in Finland. In Katz, J. & Aakhus, M. (Eds.) Perpetual Contact: Mobile Communication, Private Talk and Public Performance. Cambridge: Cambridge University Press.

Katz, J. E. & Aakhus, M. A. (Eds.) (2002) Perpetual Contact: Mobile Communication, Private Talk, Public Performance. Cambridge: Cambridge University Press.

Kaur, J. & Hegelheimer, V. (2005). ESL students' use of concordance in the transfer of academic word knowledge: An exploratory study. Computer Assisted Language Learning, 18(4), 287-310. doi:10.1080/09588220500280412

Kennedy, C., & Levy, M. (2008). L'italiano al telefonino: using SMS to support beginners' language learning. ReCALL, 20(3), 315–330

Kibona, L. & Mgaya, G. (2015). Smartphones' Effects on Academic Performance of Higher Learning Students. A Case of Ruaha Catholic University – Iringa, Tanzania. *Journal of Multidisciplinary Engineering Science and Technology,* 2 (4), 777-784.

Kiernan, P. J. & Aizawa, K. (2004). Cell phones in task based learning: Are cell phones useful language learning tools? ReCALL 16(1), 71-84.

Klopfer E., & Squire K. (2008) Environmental detectives – the development of an augmented reality platform for environmental simulations. Educational Technology Research & Development, 56, 203-228.

Knight, S. (1994). Dictionary use while reading: The effect on comprehension and vocabulary acquisition for students of different verbal abilities. The Modern Language Journal, 78(3), 285-299. doi:10.1111/j.1540-4781.1994.tb02043.x

Knowles, M. S. (1950). Informal adult education. New York: Association Press.

Koole, M. L. (2009). A model for framing mobile learning. In M. Ally (Ed.), Mobile learning:Transforming the delivery of education and training (pp. 25-47). Edmonton, Canada: AU Press.

Krashen, S. D. (1981). *Second language acquisition and second language learning*. *Annual Review of Applied Linguistics* (Vol. 25, pp.46-73). Retrieved from http://www.journals.cambridge.org/abstract_S0267190505000036

Krashen, S. D. and Terrell. T D. Terrell. 1983. *The natural approach: Language acquisition in the classroom.* Hayward, CA: Alemany Press. 183pp.

Krashen, S. D. (1985). The Input Hypothesis. *The Input Hypothesis: Issues and Implications*. Retrieved from http://www.uio.no/studier/emner/hf/iln/LING4140/h08/The Input Hypothesis.pdf

Krashen, Stephen D. (1987) *Principles and Practice in Second Language Acquisition*.Prentice-Hall International.

Kuhn, Thomas S. (1962). *"VI. Anomaly and the Emergence of Scientific Discoveries". The Structure of Scientific Revolutions*

Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: from content delivery to supported collaboration and interaction. ReCALL, 20(3), 271–289.

Kukulska-Hulme, A. (2009). Will mobile learning change language learning? *ReCALL*.

Kukulska-Hulme, A. (2005). Mobile usability and user experience. In A. Kukulska-Hulme & J. Traxler (Eds.), Mobile learning: A handbook for educators and trainers (pp. 45–56). London: Routledge.

Kumar,M.(2011), Impact of the Evolution of Smart Phones in Education Technology and its Application in Technical and Professional Studies: Indian Perspective,International Journal of Managing Information Technology (IJMIT), 3(3).

Kwon, M., Lee, J. Y., Won, W. Y., Park, J. W., Min, J. A., Hahn, C., Gu, X., et al. (2013). Development and Validation of a Smartphone Addiction Scale (SAS). *PLoS ONE*, *8*(2).

Lantolf, J. P., & Thorne, S. L. (2006). Sociocultural theory and the genesis of second language development. Oxford, UK: Oxford University Press.

Laufer, B. (1990). Ease and Difficulty in Vocabulary Learning: Some Teaching Implications. *Foreign Language Annals*, *23*(2), 147-155. Retrieved from http://dx.doi.org/10.1111/j.1944-9720.1990.tb00355.x

Laurillard, D. (2002). Rethinking University Teaching. *British Journal of Educational Technology* (Vol. 2, pp. 86-90). Routledge. Retrieved from http://books.google.co.za/books?id=J-4b_vBQqAQC

Laurillard, D. (2007). Technology, Pedagogy, and Education: Concluding Comments. *Technology Pedagogy and Education*, *16*, 357-360.

Lenders, O. (2008). Electronic glossing – is it worth the effort? Computer Assisted Language Learning, 21, 457-481. doi:10.1080/09588220802447933

Levy, M., & Kennedy, C. (2005). Learning Italian via mobile SMS. In A. Kukulska-Hulme & J. Traxler (Eds.), Mobile learning: A handbook for educators and trainers (pp. 76–83). London: Routledge.

Lew, R. (2011). Studies in dictionary use: Recent developments. International Journal of Lexicography, 24(1), 1-4. doi:10.1093/ijl/ecq044

Lewis, M. (1993).The Lexical Approach.Language Teaching Publications.

Ling, R. & Helmersen, P. (2000) "It Must Be Necessary, It Has to Cover a Need": The Adoption of Mobile Telephony among Pre-adolescents and Adolescents. Kjeller, Telenor FoU. (FoU R 9/2000).

Li, M., Ogata, H., Hashimoto, S., & Yano, Y. (2009). Adaptive Kanji learning using mobile-based email. In Proceedings of the 17th international conference on computers in education. Hong Kong: Asia-Pacific Society for Computers in Education.

Li. J. & Deifell, E. (2013). Foreign Language Learners' Use and Perception of Online Dictionaries: A Survey Study. *MERLOT Journal of Online Learning and Teaching*, 9 (4), 516-533.

Lightbown, P. M., & N. Spada, (2001). How Languages are Learned, Second edition, Oxford University Press, Oxford.

Ling, R. (2004). The Mobile Connection. The Cell Phone's Impact on Society. San Francisco: Morgan Kaufmann.

Linse, C. T. & Nunan, D. (Ed). (2005). *Practical English Language Teaching: Young learners.* New York: McGraw-Hill ESL/ELT.

Liu, J. (1998). The Effects of Three Methods of Vocabulary Instruction on Second Language Learning at the College Level (Unpublished Doctoral Thesis). University of Missouri- Kansas City, Missouri.

Long, M. (1983a). Native speaker/non-native speaker conversation and the negotiation of comprehensible input. Applied Linguistics, 4(2), 126-141.

Loucky, J. P. (2010). Comparing electronic dictionary functions and use. CALICO Journal, 28(1), 156- 174.

Lu, M. (2008). Effectiveness of vocabulary learning via mobile phone. *Journal of Computer Assisted Learning*, *24*(6), 515-525.

Luppescu, S. and Day, R. R.,(1993) "Reading, dictionaries, and vocabulary learning," Pp. 229-251, in Harley, B. (Ed.) Lexical Issues in Language Learning

Malaysian Examination Council. (2006), "Malaysian University English Test (MUET)", Kuala Lumpur.

Malaysian Communications and Multimedia Commission (2015). Hand Phone Users Survey 2014. Cyberjaya, Selangor: Malaysian Communications and Multimedia Commission.

Marion.T., (2008). The effect of gestures on second language memorisation by young children.Gesture,John Benjamins Publishing, 8 (2), pp.219-235.<hal-00375251>

Marsick, V. J., & K. Watkins, (1990). Informal and Incidental Learning in the Workplace. London and New York: Routledge.

Maximo, R. (2000). Effects if rote, context, keyword, and context/ keyword method onretention of vocabulary in EFL classroom, Language Learning, 50, 2, 385-412.

Mayer, R. (2003). The promise of multimedia learning: using the same instructional design methods across different media. Learning and Instruction, 13, 125–139.

McAlpine, J., & Myles, J. (2003). Capturing phraseology in an online dictionary for advanced users of English as a second language: A response to user needs. System, 31, 71-84.

McCarten, J. (2007). Teaching vocabulary – Lessons from the corpus. Cambridge University Press, [On-line]. Retrieved February, 05 .2015.

McNeal, T., & van'tHooft, M. (2006). Anywhere, anytime: Using mobile phones for learning. Journal of the Research Center for Educational Technology 2(2) 24-31.

McNicol,T.(2005).'Language Elearning on themove'.Japan Media Review. Accessed27th August2007from:http://ojr.org/japan/wireless/1080854640.php.writing.berkeley.edu/TESL-EJ/ej19/a1.html

Meara, P. (1980). Vocabulary acquisition: A neglected aspect of language learning. Language Teaching and Linguistics Abstracts, 13, 221-246.

Mofareh Alqahtani (2015). The importance of vocabulary in language learning and how to be taught. International Journal of Teaching and Education, Vol. III(3), pp. 21-34., 10.20472/TE.2015.3.3.002

Motiwalla, L. F. (2007). Mobile learning: A framework and evaluation. *Computers & Education*.

Muhammad Sarwar & Tariq Rahim Soomro . (2013). Impact of Smartphone's on Society. *European Journal of Scientific Research*, 216-226

Nakata, T. (2006). Implementing optimal spaced learning for English vocabulary learning: Towards improvement of the low-first method derived from the reactivation theory. The JALT CALL Journal, 2(2), 3-18.

Nakata, T. (2008). English Vocabulary Learning with Word Lists, Word Cards and Computers:Implications from Cognitive Psychology Research for Optimal Spaced Learning, ReCALL, 20(1), 3- 20.

Nation, I. S. P. (1990).Teaching and learning vocabulary. Boston, Mass.: Heinle&Heinle Publishers.

Nation, P., & Waring, R. (1997). Vocabulary size, text coverage and word lists. In N. Schmitt & M. McCarthy (Eds.), Vocabulary: Description, acquisition and pedagogy (pp. 6-19). Cambridge, UK: Cambridge University Press. Retrieved June 6, 2016, from http:// www1.harenet.ne.jp/~waring/papers/ cup.html

Nation, I. S. P. (2001).Learning vocabulary in another language. Cambridge: Cambridge University Press

Nation, P. (2005). Range and frequency instructions [Computer software]. Retrieved March 3, 2006, from http://www.vuw.ac.nz/lals/staff/paul -nation/nation.aspx

Nation, P. (2005). Teaching vocabulary. Asian EFL Journal, 7(3), 47-54.

National Institute for Literacy. (2001). Put reading first: The research building blocks for teaching children to read. Jessup, MD: National Institute for Literacy

Naismith,L.,Lonsdale,P.,Vavoula,G.&Sharples,M.(2004).'Literature Review in Mobile Technologies and Learning'. Future Lab Report 11. Retrieved on February 10 2015from:http://www.futurelab.org.uk/resources/documents/lit_reviews/Mobile_ Review.pdf

Nelson, M. R., & Paek, H. J. (2007). A content analysis of advertising in a global magazine across seven countries - implications for global advertising strategies. International Marketing Review, 24(1), 64–86.

Neuman, S. B., & Dwyer, J. (2009).Missing in action: Vocabulary instruction in pre-k. The Reading Teacher, 62(5), 384-392.

Newton, J. (2001). Options for vocabulary learning through communication tasks. Oxford Journals, 55(1), 30- 37.

Nicholson, M.W. (2001). *Adaptation of Asian Students to American culture.* Research Report, Eric Document, ED 453751.

Norbrook, H., & Scott, P. (2003). Motivation in mobile modern foreign language learning. In J. Attewell, G. D. Bormida, M. Sharples, & C. Savill-Smith (Eds.), MLEARN: Learning with mobile devices (pp. 50–51). London: Learning and Skills Development Agency.

Novera, I. A. (2004). Indonesian postgraduate students studying in Australia: An examination of their academic, social and cultural experiences. *International Education Journal*, *5*(4), 475-487.

Nunan, David. 1991. Language Teaching Methodology. A Textbook for Teachers. London: Prentice Hall

Oksman, V. & Turtiainen, J. (2004) Mobile Communication as a Social Stage. The Meanings of Mobile Communication among Teenagers in Finland. New Media & Society 6(3), pp. 339–319.

Oksman, V. (2010). The mobile phone: A medium in itself. VTT Publications, (737), 1-219.

Oliver, B., & Goerke, V. (2008). Undergraduate students' adoption of handheld devices and Web 2.0 applications to supplement formal learning experiences: Case studies in Australia, Ethiopia and Malaysia. International Journal of Education and Development using ICT, 4(3), 78-94. Retrieved from http://www.editlib.org/p/42328

Oxford, R. L. (1990). Language Learning Strategies. What Every Teacher should know. Boston: Heinle and 323 Heinle.

Oxford Dictionary of English (2016). Retrieved on January 7 from https://www.mobisystems.com/android/oxford-dictionary-of-english-free/

Pachler, N., Cook, J., Bachmair, B., Kress, G., Seipold, J., Adami, E., & Rummler, K. (2010). Mobile Devices as Resources for Learning: Adoption Trends, Characteristics, Constraints and Challenges. *Mobile Learning: Structures, Agency, Practices* (pp. 73-93). Springer Science + Business Media, LLC.

Park, B. W., & Lee, K. C. (2011). The effect of users' characteristics and experiential factors on the compulsive usage of the smartphone. *Communications in Computer and Information Science* (Vol. 151, pp. 438-446).

Parmjit Singh, Puzziawati Ab Ghani and Teoh Sian Hoon. 2009. *Quantitative Data Analysis for Novice Researchers*. Kuala Lumpur: Primera Publishing.

Parr, G. Bradley, L. and Bingi, R. (1992). Concerns and Feelings of international students. *Journal of College Students Development*, 33, 20-25.

Pillay, H. (1998). Issues in the teaching of English in Malaysia. *The Language Teacher*, 22(11), 41-43.

Pouezevara, S. & Khan, R. (2007). Learning Communities enabled by Mobile Technology: A Case Study of School-based, In-service Secondary Teacher Training in Rural Bangladesh. Bangladesh Country Report. ADB TA6278-REG. Research Triangle Park, NC: RTI International.

Prensky, M. (2001). Digital natives, digital immigrants. On the Horizon, 9(5), 1–6.

Prince, M. (2004). Does active learning work: A review of the research. *Journal of Engineering Education, 93 (3)*, 223-232.

Proctor, P. W., & Vu, K.-P. L. (2003). Human information processing: An overview for human-computer interaction. In J. A. Jacko, & A. Sears (Eds.), The human-computer interaction handbook: fundamentals, evolving technologies, and emerging technologies (pp. 35-51). Mahwah, NJ: Lawrence Erlbaum Associates.

Rahimia, M. & Mirib, S.S. (2014). The Impact of Mobile Dictionary Use on Language Learning, Procedia - Social and Behavioral Sciences 98 (2014) 1469 – 1474

Reilly.N (2012) Vygotsky's Socio-Cultural Theory in Terms of Application to SLA.

Rogers, A. (2004). Looking again at non-formal and informal education - towards a new paradigm. The encyclopedia of informal education, www.infed.org/biblio/non_formal_paradigm.htm. Last updated: June 04, 2004.

Roy, S. (2013). Effective Strategies for Vocabulary Building in ESL Learners. 340-345.

Read, J. (2000). *Assessing vocabulary*. United Kingdom: Cambridge University Press

Salmon, G. (2000). E-moderating - the key to teaching and learning online (F. Lockwood, Ed.). London: Kogan Page.

Samsiah Bidin, Kamaruzaman Jusoff, Nurazila Abdul Aziz, Musdiana Mohammad Salleh, & Taniza Tajudin. (2009). Motivation and attitude in learning English among UiTM students in the northern region of Malaysia. English Language Teaching, 2(2), 16-20.

Sandberg, J., Maris, M., & De Geus, K. (2011). Mobile English learning: An evidence-based study with fifth graders. *Computers and Education*, *57*(1), 1334-1347.

Sato, J. (2015). Japan Times, Tokyo, National/ Social Issue Column. Shusuke Murai-*National News*.

Schmitt, N. (1997). Vocabulary learning strategies. In Schmitt, N. and McCarthy, M.(eds.) Vocabulary: Descriptive, Acquisition and Pedagogy. Cambridge: Cambridge University Press.

Schmitt, N. (1999). The relation between TOEFL vocabulary items and meaning, association, 325 collocation, and word-class knowledge. Language Testing 16, 189-216

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

Sedita, J. (2005). Effective Vocabulary Instruction. *Insights on Learning Disabilities*, 2(1), 33-45.

Sharples, M. (2000). The design of personal mobile technologies for lifelong learning. Computers & Education, 34(3/4), 177–193.

Sharples, M., Taylor, J., & Vavoula, G. (2005). Towards a theory of mobile learning. Proceedings of mLearn2005- 4th World Conference on mLearning, Cape Town, South Africa, 25-28 October 2005. Retrieved December 20, 2005, from http://www.mlearn.org.za/CD/papers/Sharples- %20Theory%20of%20Mobile.pdf

Sharples M (ed.) 2006. *Big issues in mobile learning.* Report of a workshop by the Kaleidoscope Network of Excellence Mobile Learning Initiative. UK: University of Nottingham. Available at http://matchsz.inf.elte.hu/tt/docs/Sharples-20062.pdf. Accessed 10 November 2015.

Sharples, M., Taylor, J., & Vavoula, G. (2007). A theory of learning for the mobile age. In R. Andrews, & C. Haythornthwaite (Eds.), The Sage handbook of elearning research (pp. 221–247). London: Sage

Scott, P. A., & Conrad, C. F. (1991). A critique of intensive courses and an agenda for research. *Higher Education: Handbook of Theory and Research*, 8(411-459).

Scott, P. A., & Conrad, C. F. (1992). A critique of intensive courses and an agenda for research. *Higher Education: Handbook of Theory and Research*, 8(411-459).

Shakarami, Alireza, Khajehei, Hassan, and Hajhashemi, Karim (2014) *Tech-assisted language learning tasks in an EFL setting: use of hand phone recording feature*.International Journal of Applied Linguistics & English Literature, 3 (5). pp. 100-104.

Sharwood-Smith, M. (1986). Comprehension vs. acquisition: two ways of processing input. Applied Linguistics, 7: 239-256.

Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. Reading Research Quarterly, 21.

Siemens, G. (2004) Connectivism: A Learning Theory for the Digital Age. E-learn space Dec 12th 2004. http://www.elearnspace.org/Articles/connectivism.htm

Stapleton, A. (2004). Serious games: serious opportunities, Australian game developers conference. Melbourne, VIC: Academic Summit.

Stockwell, G. (2007). Japan vocabulary on the move: Investigating an intelligent mobile phone-based vocabulary tutor. *Computer Assisted Language Learning*, 20, 4, 365 – 383

Stockwell, G. (2008). Investigating learner preparedness for and usage patterns of mobile learning. ReCALL, 20(3), 253–270.

Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology*, *14*(2), 95-110. Retrieved from http://www.llt.msu.edu/vol14num2/vol14num2.pdf#page=102

Squire, K., & Dikkers, S. (2012). Amplifications of learning: Use of mobile media devices among youth. Convergence: The International Journal of Research into New Media Technologies, 18, 445-464.

Stuart Luppescu & Richard R. Day. (1993). Reading, Dictionaries and Vocabulary Acquisition. 229-251

Susi, T., Johannesson, M., & Backlund, P. (2007). Serious games, an overview. Technical report HIS-IKI-TR-07-001. University of Skvde

Suwantarathip, O., &Orawiwatnakul, W. (2015). Using mobile-assisted exercises to support students??? vocabulary skill development. *Turkish Online Journal of Educational Technology*, *14*(1), 179-187. Sakarya University.

Swain, M. (1981). Target language use in the wider environment as a factor in its acquisition. In R. W. Anderson (Ed.), New dimensions in second language acquisition research. Rowley, MA: Newbury House.

Tang, E., & Nesi, H. (2003). Teaching vocabulary in two Chinese classrooms: School children's exposure to English words in Hong Kong and Guangzhou. Language Teaching Research, 7(1), 65-97.

Tatum, B.C. (2010). Accelerated education: learning on the fast track. *Journal of Research in Innovation Teaching;* Vol.3, Issue 1 (March 2010), 33-50.

Taylor, J. (2006). What are appropriate methods for evaluating learning in mobile environments? Evaluating Mobile Learning in M. Sharples, (Ed) Big Issues in Mobile Learning. Nottingham: Kaleidoscope Network of Excellence, Mobile Learning Initiative

Texas Reading Initiative (2002) Promoting vocabulary development: Components of effective vocabulary instruction (Revised edition). Austin, TX: Texas Education Agency

Thang, S. M. (2004). Learning English in multicultural Malaysia: Are learners motivated? *Journal of Language and Learning*, 2(2).

Thomas, W. P., & Collier, V. P. (2002). A national study of school effectiveness for language minority students' long-term academic achievement. Santa Cruz, CA: Center for Research on Education, Diversity and Excellence.

Thornton, P., & Houser, C. (2003). EduCall: Adding Interactivity to Large Lecture Classes in Japan via Mobile Phones. *editlib.org*. Retrieved from http://www.editlib.org/toc/index.cfm?fuseaction=Reader.PrintAbstract&paper_id=14114

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

Тімкова Ю.М.(2012) The Use of Mobile Learning in Teaching. Retrieved February 7, 2016 from http://www.rusnauka.com/4_SND_2012/Pedagogica/5_100107.doc.htm

Traxler, J. (2009). The evolution of mobile learning. Press. *Informing Science*.

Traxler, J. (2009). Learning in a Mobile Age. *International Journal of Mobile and Blended Learning*, *1*(1), 1-12.

Trifonova, A., & Ronchetti, M. (2003). Where is mobile learning going? *E-Learn 2003 Conference*.November 7-11. Phoenix, AZ. Retrieved April 24, 2007 from:http://www.science.unitn.it/~foxy/docs/Where%20is%20Mobile%20Learning%20Going%20(E-Learn2003).pdf

VijayaletchumySubramaniam, Mohd. SahandriGani Hamzah, Noor AinaDani, NormalizaAbd Rahim, NikRafidah Nik Affendi& Abdul Rashid Daing Melebek (2008). Learning Vocabulary throughImage Sketching among Primary School Children, International Journal of Diversity inOrganisations, Communities and Nations, 9(2), 35- 42.

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

Walters, J. & Bozkurt, N. (2009). The effect of keeping vocabulary notebooks on vocabulary acquisition. *Language Teaching Research*, 13(4), 403-423.

Wang, S., & Higgins, M. (2005).Limitations of mobile phone learning.*Proceedings - IEEE International Workshop on Wireless and Mobile Technologies in Education, WMTE 2005*, 179-181.

Wang, S., & Higgins, M. (2006). Limitations of mobile phone learning. The JALT CALL Journal, 2(1), 3– 14.

Wilkins, D. A. (1972). *Linguistics in Language Teaching*. London: Edward Arnold.

Wodkowski, R. J. (2003). Accelerated learning in colleges and universities. *New Directions for Adult and Continuing Education*, 97(Spring), 5-15.

Yongqi Gu, P. (2003). Vocabulary learning in second language: Person, task, context and strategies. TESL-EJ, 7(2). Retrieved September 10, 2015, from http://www-writing.berkeley.edu/ TESL-EJ/ej26/a4.html

Yoon, K. (2006a) Local Sociality in Young People's Mobile Communications. A Korean Case Study. Childhood 13(2), pp. 174–155.

Yoon, K. (2006b). The Making of Neo Confusian Cyberkids: Representations of Young Mobile Phone Users in South Korea. New Media & Society 8(5), pp. 771–753.

Zhang, H., Song, W., & Burston, J. (2011). Reexamining the Effectiveness of Vocabulary Learning via Mobile Phones.*Turkish Online Journal of Educational Technology - TOJET, 10*(3), 203-214.

Zimmerman, C. B. (1998). Historical trends in second language vocabulary instruction. In J. Coady and T. Huckin (Eds.), Second language vocabulary acquisition. U.S.A: Cambridge University.