A COMPARISON OF THE USE OF VIDEO AND AUDIO MEDIA IN ENGLISH VOCABULARY ACQUISITION

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FACULTY OF LANGUAGE AND LINGUISTICS
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[A COMPARISON OF THE USE OF VIDEO AND AUDIO MEDIA IN ENGLISH VOCABULARY ACQUSIITION]

ABSTRACT

Video has been applied as a tool in designing Instruction to optimize Second Language Acquisition (SLA). Little research has been done on the effects of this tool on English language learning especially in the context of vocabulary instruction. The current empirical study attempts to investigate the use of video and audio in vocabulary acquisition. Video has significant effects on vocabulary learning among students. In this quantitative and qualitative study, data is gathered using a pretest-posttest and delayed post-test design. Specifically, the participants of 20 students from a school in Port Dickson would be assigned into two groups to administer the video and audio vocabulary acquisition. The pre and post activities related to the British Animated Video require participants answering VKS test and fill-in-the -blanks. The improvement on students` vocabulary knowledge is determined by analyzing the score obtained. This study helps to investigate the use of video and audio for vocabulary acquisition and contribute to the body of knowledge on vocabulary teaching instruction. This study has shown that students can acquire vocabulary through audio and video. However, most of the students prefer video then audio because it illustrates visual examples to help develop understanding in vocabulary acquisition.

Keywords: *Second Language Acquisition (SLA), Vocabulary acquisition, VKS test, Video, Audio.*

[PERBANDINGAN ANTARA PENGGUNAAN VIDEO DAN AUDIO MEDIA DALAM PENGUASAAN KOSA KATA BAHASA INGGERIS]

ABSTRAK

Video digunakan sebagai medium untuk membawa kepada penguasaan Bahasa Inggeris sebagai bahasa kedua. Hanya terdapat sedikit kajian telah dijalankan berkaitan dengan kesan penggunaan video sebagai alat membantu penguasaan Bahasa Inggeris terutamanya dalam konteks kosa kata. Kajian berbentuk empirikal ini mengkaji penggunaan video dan audio dalam meningkatkan kosa kata Bahasa Inggeris. Video mempunyai kesan signifikan dalam pembelajaran kosa kata dalam kalangan murid. Dalam kajian yang berbentuk kuantitatif dan kualitatif ini, data dikumpul daripada pra-ujian dan pasca ujian. 20 murid dari sebuah sekolah menengah di Port Dickson telah dikumpulkan dalam dua kumpulan untuk diberi rawatan video dan audio sebagai alat bantu penguasaan kosa kata. Pra-ujian dan pasca ujian tersebut berlandaskan sebuah video animasi British yang memerlukan responden menjawab ujian VKS dan ujian mengisi tempat kosong. Data dianalisis dengan mengunakan skor yang diperolehi dalam ujian tersebut. Kajian ini dapat menyumbangkan kepada kajian- kajian lain yang berkaitan dengan penguasaan kosa kata Bahasa Inggeris sebagai Bahasa Kedua. Kajian ini membuktikan bahawa murid dapat menguasai kosa kata dengan mengunakan video mahupun audio. Namun, kebanyakan murid lebih menggemari penggunaan video kerana video mengandungi ilustrasi-ilustrasi yang dapat membantu dalam pemahaman kosa kata.

Katakunci: *Penguasaan Bahasa kedua, Penguasaan kosa kata, Ujian VKS, Video, Audio.*

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SLA	:	Second Language Acquisition
VKS	:	Vocabulary Knowledge Scale
AV	:	Audio-visual/ Video
A	:	Audio

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Second Language Acquisition (SLA) researches are expanding at a tremendous speed, with the exploration of new technologies to see how they facilitate language learning. There are many instructional materials prepared with or without using technologies which have altogether changed the role of the educators. Multimedia technology is used in almost every aspect of language including speaking, listening, reading, pronunciation, vocabulary and grammar (Chun, 2016). It is not too much to say that a combination of second language acquisition and technology has fruitful effects on learners and educators.

According to Chun (2016), the research on CALL is no longer focused on the effectiveness of technology but it has gone deeper into researching the specific features of computer-based materials which can help the specific types of L2 learners in a particular language learning task. Furthermore, technology has become both a research tool and a medium for teaching and learning. For example, the negotiation of meaning using computer software, multimodal presentation of video using subtitles or without subtitles, hyperglosses and online dictionaries are used in the research of vocabulary and reading. Even mobile phones, tabs, wikis and chats are used to investigate the sociocultural aspects of language learning (Elola and Oskoz ,2010 in Chun, 2016). Technology as a research tool is used widely to study the construct of noticing by recording participants' eye gaze while they are engaged in a short chat interaction task. Other technologies such as an Intelligent Language Tutoring System, can provide information on errors and feedbacks to learners (Chun, 2016).

This study attempts to explore vocabulary acquisition using video and the perception of the learner in using video to promote vocabulary acquisition. This chapter firstly briefs the background information on both vocabulary acquisition using video and learners` perception on the video as a facilitator. The following sections explain the rationale, the objectives and research questions.

1.2 Background of the Study

A vocabulary is a set of words understood by a person or a set of words needed by a person when constructing a new sentence. The richness of vocabulary reflects ones intelligence or level of education (Suraya, 2007). According to Suraya (2007), the word "curse" or "imprecate" can reveal the background of the speaker; the word "curse" is a norm used by a native speaker but "imprecate" is not, even though both words are synonyms. Similarly, the choice of words in receptive language can reveal ones thoughts and language competency. Therefore, in order to increase the proficiency or language skill, one should improve the size of vocabulary knowledge. Language learning comprises of vocabulary acquisition. Vocabulary acquisition is a process involving the mental network that plays an important role in the language active usage in everyday life.

Vocabulary growth is happening fast in childhood and continues to develop in adults` lives when they respond to the surroundings. Nevertheless at an advance level, learners are aware of their lexical gap or unable to express as adequately as they could in their first language (Read, 2000). Therefore, it is clear that one cannot depend on vocabulary growth to acquire language proficiency.

The educators should carry out research on vocabulary learning and acquisition to facilitate language competency among learners. The perspective of vocabulary learning has turned into a new dimension where it involves the type of input modalities.

According to Read (2000), vocabulary learning is not just involving memorizing a long list of words after looking at the meaning in a bilingual dictionary, but it comprises of language inputs and cognitive processes.

The presence of multimedia materials has changed the input in language learning which draws a positive impact on vocabulary acquisition (Sydorenko, 2010). Vocabulary acquisition also involves cognitive learning which encompasses the brain function and memory.

The most wide-spread method for vocabulary acquisition in the 1960s were the grammar-translation method and audio-lingual method (Read, 2000). Grammar-translation method was based on the belief that language learning is an intellectual process involving memorizing bilingual vocabulary list. More than a thousand years or during the time of the Romans, it was a challenge to find the best approach to language learning and it was the time vocabulary had been given priority (Read, 2000). A scholar, John Amos Comenius introduced the translation method, shifting from memorization to translation to learners` first language (Schmitt, 1993). After the translation method, researchers in the 21st century are focusing on application of technology in vocabulary acquisition. They believe that successful vocabulary acquisition involves complex cognitive processes which only take place from well-studied language input of technology.

In a study conducted by Feinstein (2011) feeling of satisfaction, joy, enthusiasm and motivation which are known as emotional growth that takes place in multimedia learning is the contributor for vocabulary acquisition.

According to the researcher, when the computer indicated the correct answer the student earns positive energy which contributed to the emotional growth. As a result the happiness and the craving for more in students creates more attempt to learn vocabulary.

This transformation of learning mode from memorizing words to multimedia usage in second language learning has set into motion an academic and emotional growth. Both vocabulary acquisition and emotional growth need to happen concurrently and this can only be done using the multimedia technology. Multimedia technology works as a powerful influencer, sculpting and molding the minds of the learners (Feinstein, 2011).

According to Feinstein (2011) computer-based instruction has become the motivator, tutor, and also a prolific source of information which in turn brings about emotional growth and vocabulary acquisition. The use of multimedia technology; such as video, mobile phone, the internet, smart boards and computer games, is pervasive until it is embedded as part of everyday life. As such, multimedia technology instruction would be a powerful input of vocabulary acquisition where it is considered as the most important part in Second Language competency.

According to the dual coding theory, cognition involves a verbal code for language and a nonverbal code for mental imagery which are independent but interconnected (Sadoski, 2006). According to Sadoski (2006), vocabulary teaching should include both verbal and non-verbal contexts such as the use of self-generated imagery, the use of illustrations, the keyword method and the verbal association method.

Nowadays many researches are on the pursuit to find the best vocabulary learning strategies. Vocabulary teaching and learning bring a myriad challenges for teachers and students. Historically, there had been minimal focus on vocabulary instruction in the ESL classroom.

Vocabulary acquisition, however, is a lifelong process that both teachers and learners are trying to manipulate using various methods (Souleyman, 2009). According to the researcher, a large lexical knowledge will enable learners to express the meaning intended accurately.

Learning vocabulary consists of collecting multiple sensories and sensorimotor experiences (Macedonia, 2015). According to Macedonia (2015), impoverished linguistic input by allowing only one modality, for example, acoustic or visual input, reduces the opportunity of acquiring words. In the study conducted by Macedonia (2015), it is revealed that vocabulary learning process is not an easy process but it involves billions of neurons network. When a learner hears a German word '*Himbeer*' which means raspberry in English, only the auditory cortices will analyze and store them. If the learners are presented with visual information on a real fruit, a multitude of stimuli will reach the brain. The smell will engage in the Piriform Cortex. When the learner writes the word '*himbeer*' and draws the fruit, the word will be represented in the brain (Macedonia, 2015).

1.3 Statement of the Problem

There has been much debate on settling for an effective and efficient tool for learning vocabulary. Ever since the Grammar Translation Method in the 18th century, reading was used as a way to improve vocabulary knowledge. Hill and Laufer (2003) claimed that extensive reading has caused vocabulary growth.

They also stated that a learner needs to know 3,000 word families or 5000 lexical items to cover 90-95% of any text. Furthermore, guessing a meaning using contextual clue is difficult because consistent good guessing is needed to know 98% of the words in the text.

According to them, the native speakers know 5,000 words in primary school and gradually develop their vocabulary size by 1,000 words per year. The average L2 vocabulary size of a graduate student ranges from 1,500 and 4,000 word families from reading, which is one fifth of the total vocabulary size of a graduate student with 20,000 word families (Goulden, Nation, & Read, 1990). The pick-up rates of unfamiliar words from short or long text is 1 to 5 words from a text of more than 1,000 words (Hulstijn, 1992). This clearly proves that incidental vocabulary learning through reading has a very small gain. According to Haynes (1993), this is probably because of the lack of contextual clue in most reading texts. According to Hill and Laufer (2003) a Second Language Learner would have to read 420 novels to increase by 2,000 words. However, in order to improve incidental vocabulary learning, reading is proven to be a time–consuming method and a process that is difficult to implement. It is a huge problem for the educators who are still using reading as the only way to improve vocabulary. It is known that in Malaysia reading is still regarded as the only way to improve language by vocabulary acquisition.

As such in a multimedia environment, the researcher believes that incidental vocabulary learning can be enhanced by using visual and sound. This study is believed to shed light on incidental vocabulary learning through visual and sound that supports the statement that the dual mode is a better way of remembering a word than single mode, either textual or visual alone. This is because dual mode vocabulary acquisition involves both verbal code and non-verbal code to manipulate a word.

A research conducted by Chun (2016) revealed that intermediate Austrian EFL students did indeed acquire vocabulary from pop songs played on video in out-of-school contexts. However, there are some factors involved in vocabulary development through songs; such as the frequency of word occurrence in the song, occurrence in the title of a song, information provided by the context of the lyrics, phonological similarity for L2 words, orthographic similarity for L1 words and analysis of word parts in combination with the previous word knowledge.

According to Chun (2016), although learning vocabulary through songs is not very high but a small gain can become higher if the learner does it frequently. The study conducted by Chun (2016) proved that vocabulary acquisition from songs too poses a problem as it only gives a small gain.

In Malaysia, there is lack of study on vocabulary acquisition. This could be because the importance of vocabulary is less emphasized in schools. Teachers do not teach vocabulary explicitly, but it is taught just to understand a text.

This means that the teachers do not have a specific method that emphasizes vocabulary acquisition among students. This could be because there is no syllabus in the English Curriculum Specification that requires the teachers to teach vocabulary explicitly (English Curriculum specifications, 2003).

English language proficiency in Malaysia is deteriorating. Therefore, there is a growing concern about the level of English proficiency among students. Virtual Learning Environment is introduced to exert powerful motivation by providing exciting new ways to learn the language (Bakar, 2006). According to Bakar (2006), teachers are very much prone to traditional methods of teaching and they have the attitude that the multimedia technologies are only for younger teachers. As a result, their attitude

impedes them from acquiring the knowledge on multimedia use in English language teaching. Bakar (2006) stated that the teachers do not have enough knowledge on multimedia and the teachers have the perception that learning to use multimedia is not an easy task. This is proven by a study conducted by Hussein (2014), on the usage of Virtual Learning Environment among teachers which revealed that the teachers lack the readiness and possess inadequate skills in accessing Frog VLE.

Language Learners in Malaysia find difficulties in acquiring their four skills of language: listening, speaking, reading and writing because of their limited vocabulary knowledge. In order to solve the problem, effective vocabulary learning should be given serious attention (Yunus, 2016). In the study conducted by Yunus (2016), to evaluate the form three Malaysian text books, he found that the text books are weak in terms of their vocabulary presentation in vocabulary items.

This proves that vocabulary is not given the priority automatically causing hindrance in language acquisition. The findings from this study support the Dual Coding Theory, which states that information is much easier to retain and retrieve when it is coded in verbal and visual forms (Paivio, 1991).

1.4 Research Objectives

English as Second Language Acquisition involves the competency in vocabulary knowledge. Vocabulary helps learners to improve reading, writing and speaking. As such, the study aims to investigate how the methods facilitate the process of delivering vocabulary knowledge to learners using technologies of video and audio.

1.5 Research Questions

Using both qualitative and quantitative methods, this study seeks to answer the following questions:

1. How do the use of video and audio facilitate students` performance on vocabulary acquisition?

2. What are the students` perceptions of their learning of vocabulary using video and audio?

1.6 Significance of the Study

Vocabulary learning strategies are important in the acquisition of vocabulary as they will result in quality composition with lexical richness that creates high impact on readers. Vocabulary plays an important part in mastering a language. Limited vocabulary enables learners to write or read properly.

It will impede the learners to even speak fluently. Thus, it is very important for the teachers to identify ways to increase vocabulary knowledge. According to Wilkins (1972) without vocabulary knowledge nothing can be conveyed. Since the Roman times, vocabulary in language learning has been a controversial issue, when many researchers had been looking for proper ways to conduct language instruction. Unlike the meaning-based approach, communication language teaching has pushed vocabulary to the secondary status (Huckin, 1997). According to Huckin (1997), vocabulary acquisition was not the focus in language research, but the attention was given to the use of communicative categories. This is because only language communication was regarded as an important element for language learning.

In twentieth century, the systematic approach on vocabulary with the use of multimedia was introduced (Richards, 1996). In the digital world, a learner`s mental ability and lifestyle have changed dramatically with the use of information technology. Thus, it is important that language learning and teaching follows the modern world setting which incorporates technology. Since learning vocabulary is not an easy task, technology can be used as a mediator for both, to facilitate and encourage language learning or mastering vocabulary.

As such, it is crucial to investigate how technology influences second language learners. This research adopted video as a multimedia technology to promote vocabulary acquisition. If vocabulary is not given importance in Malaysian language classrooms, it would certainly jeopardize the English Education System.

Therefore, attention is needed to improve the current situation of English Language in Malaysia. As such it is compulsory to improve the language from vocabulary acquisition as it is the main component of a language.

The findings of this research will shed light on how the mode of instruction (video or audio) can help teachers to improve ESL students` vocabulary knowledge and language skills. The Dual Coding Theory will be used as a theoretical framework in this study; the findings may help to improve our understanding of the theory by investigating the effects of the two modes of instruction on ESL vocabulary acquisition. The findings will also provide an insight into how ESL students learn vocabulary using the two different modes.

1.7 Summary and Overview of the Study

The study attempts to explore how the video as a bimodal presentation of a word facilitates vocabulary acquisition. Besides this, the perception on the video as a language learning mediator will be explored. This chapter contains an introduction of the background of vocabulary acquisition in the Second Language Acquisition and discussion of the research gap. In line with the gap, the research objective and two research questions are discussed, followed by the significance of the study. The study is organized as follows. Chapter 2 reviews the literature on vocabulary acquisition and video. Chapter 3 describes the research design and relevant methodological details. Chapter 4 presents the results and discussion followed by future suggestions in Chapter 5.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Virtually all learners of second language and language practitioners are aware of the fact that language learning involves acquiring a large numbers of words. This is because the words are the building blocks of a language. As such, they are constantly finding out the best vocabulary instructional practice, which will not only facilitate vocabulary acquisition but also promote word retention.

The review of literature is supposed to serve three main purposes. First, an assessment of the role of vocabulary in language learning and how does the vocabulary learning and vocabulary instruction are interdependent. Second, a review of previous studies on vocabulary acquisition comprising of incidental acquisition and explicit acquisition. Third, the review of the previous studies in Malaysia.

To achieve these purposes, this chapter discusses about the role of vocabulary in section 2.2 and vocabulary acquisition in section 2.3. Following this, section 2.4 review the relevant study in vocabulary acquisition. The use of technology in vocabulary acquisition is described in section 2.4.

2.2 Role of Vocabulary in Language Learning

Researches agreed that vocabulary acquisition is not limited to knowing and memorizing words but it involves six aspects of vocabulary to be considered to ensure language competency among learners (Ur, 1996; Alqahtani, 2015).

The aspects are pronunciation, grammar, collocation, aspects of meaning, meaning relationship and word formation (Ur, 1996). Vocabulary refers to a number of words needed to communicate in a language for listening, speaking, reading, and writing (Alqahtani, 2015).

According to Alqahtani (2015), receptive vocabulary consist of words which are only recognized and understood by the learners when they encounter them either in a text or while speaking. On the other hand, productive vocabulary refers to words that the learners are able to apply in writing and speaking to express their thoughts or ideas. Hence a learner is competent in a language if the number of productive vocabulary is larger. As such, a learner needs to acquire the word processing skill of a language before mastering the four language skills.

2.3 Vocabulary Acquisition and Vocabulary Instruction

Vocabulary acquisition involves multiple areas; including word retention in mental lexicon, word acquisition in context and implication of L1 in L2 vocabulary acquisition (Chun, 1996). The level of vocabulary acquisition or vocabulary knowledge of a learner determines the choice of words used by the learner in writing or speaking. Hence vocabulary knowledge is a good indicator of the language proficiency of a learner. Learner`s with insufficient vocabulary knowledge would encounter difficulties in choosing appropriate word to represent their thoughts or ideas.

As a result, they would not be able to convey ideas or opinions either in the written text or spoken language (Shyang, 2016). Eventually it affects the quality of the learners` writing and their academic success. In a study to compare the vocabulary choice of high proficiency university students and low proficiency university students, Shying (2016) revealed that the students with high vocabulary knowledge were able to score better in argumentative writing and compare/contrast essays because of their ability to express critical thinking skills with their word choice in the essays. In other words the level of vocabulary acquisition helps to judge a learner in terms of ones thinking ability. Moreover, vocabulary helps an individual to express ones idea in communication and comprehensive reading.

Communication will end when the learner lacks the necessary words. As pointed out by Thornburry,

"without grammar very little can be conveyed, without vocabulary nothing can be conveyed"

However, the demand from a learner is extremely great. A learner needs to acquire 2,000 to 3,000 new words a year for comprehensible reading (Beck, McKeown & Kucan, 2002). Thus, there is a tremendous need for more vocabulary instruction at all grade levels by all teachers. In a study conducted by August (2005), effective vocabulary instruction practice is essential in the lexicon development of a learner as slow vocabulary development is an indication of learning disability.

The number of words learners recognize and understand is larger than the number of words used in speech and writing (Read, 2000). According to Read (2000), when the learner encounters a word, it becomes receptive and as the knowledge of the words increases, it becomes productive. Thus, a learner needs to know the pronunciation, spelling, grammar, meaning before a word can be used or reach the productive status. Both of the knowledge is a continuum along the vocabulary acquisition. Vocabulary acquisition occurs in a continuum of knowledge which stretches from receptive to productive word knowledge (Henriksen, 1996).

In other words, the word is passive before it become active or a word is understood first before it is used actively, which means that the learner moves along the continuum as he knows about a word. Therefore, word knowledge can be measured in the scale form.

ESL learners will adapt to specific vocabulary instruction to ensure competency in vocabulary acquisition. The best language instruction is the best input and it carries positive vocabulary acquisition. In this section, the vocabulary instruction used by ESL educator will be discussed. Vocabulary instruction is the language input provided by instructors when the learner encounters unknown words in a context. Appropriate vocabulary instructions will facilitate learners to acquire new words effectively. Language input to second language learners needs to be modified in order for the input to be comprehensible

Recently, the attempt to find the appropriate vocabulary instruction has brought about arguments on the methods used by the learners to acquire vocabulary. Wakely (2003) in his study stated that there are two main methods adapted by the learners in vocabulary acquisition; the 'shallow' method and the 'deep' method.

According to him, the 'shallow' method involves inferring the meaning from text with minimal use of a dictionary. On the other hand, the 'deep' method comprises a number of activities such as referring to dictionary, associating words to build deep understanding of the words, as well as revising to ensure retention. Wakely (2003) agreed that, the 'deep' method helps in the productive vocabulary acquisition despite it being time consuming. However, in his study he found that poor learners prefer the 'shallow' strategy but they are unsuccessful in carrying out the method because they tend to guess the meaning inaccurately.

As such, he suggested that ESL educators design the vocabulary instruction in a way that involves the 'deep' method to ensure effective vocabulary acquisition; positive word retention. This study is looking into vocabulary instruction in a form of language input which involves the 'deep' method.

Vocabulary instruction can be categorized into two; indirect vocabulary instruction and direct vocabulary instruction. Indirect vocabulary instruction results in the acquisition of vocabulary without conscious mind or minimum awareness. It includes multiple exposures of words or listening.

Multiple exposures mean more than just repeating the word with its definition or synonym. It also means encountering the words in different context. This enables a learner to gather more information about the word and move gradually from knowing the word to applying it to express ideas (Brett, 1997). According to Brett (1997), listening from reading aloud whether in a story or communication context promotes the learners to acquire word knowledge by understanding the usage of words in a situation. Direct instruction involves learners` mind awareness, which means they notice the word form and word structure including understanding the word part or word order. Learners can be taught about 400 words a year using direct instruction (Beck, 2002).

Hence, it is tremendously essential for the educator to design language inputs to stimulate learners` positive emotion that leads to the awareness of words. For example, vivid descriptions and interesting metaphors arouse learners` interest to engage in knowing about words and develop interest in words. Positive emotion causes diverse effects on students' motivations. Learners may have positive and a negative experience, which may influence their motivational energy. In other words, feelings and emotions can help in positive learning (Aguilar, 2013).

According to Aguilar (2013) students would be able to redirect their attention and motivation to particular vocabulary instruction if it strongly interests them. Eventually direct instruction encourages them to investigate a word until vocabulary acquisition takes place (Beck, 2002).

Thus, it is important that the learners are equipped with sufficient vocabulary knowledge for them to become successful academically. The next section looks at the vocabulary instruction studies in recent years.

2.3.1 Vocabulary Acquisition and Vocabulary Instruction

Researches proved that vocabulary acquisition is the result of the association of implicit learning; involving recognition and explicit learning; production of words (Ellis, 1994). Implicit vocabulary acquisition involves 'noticing' before the input converts to intake that facilitates storage in long term memory. Frequent exposure and other mental processes of words will bring about explicit learning. Explicit learning involves working memory (WM) and the words are stored in long-term memory (LTM). It has been proven that incidental vocabulary acquisition implies natural, effortless and meaning focused whereas explicit vocabulary acquisition requires more deliberate mental effort than simply engaging in meaning focused activities and that a link has to be established between meaning and form by various means (Ma, 2006).

Incidental vocabulary acquisition in second language learning occurs at different rate according to the age where a child in formal education acquires meaning of words faster compared to an adult (Read, 2000). Read (2000) pointed out that incidental vocabulary acquisition happens 'unconsciously' through listening when the learners` are not told to focus on certain words. Internal language acquisition device is significant in incidental vocabulary acquisition as it is involved in the comprehensible input of a message.

It enables a learner to focus on the message than the form. This will contribute towards subconscious acquisition without the learner`s awareness of acquiring knowledge of vocabulary (Krashen, 1989).

Incidental learning is important in vocabulary acquisition as it involves acquiring knowledge of new words gradually in the context from their reading and listening activities (Read, 2000). Ellis (1994) and Schmidt (1990) argued that vocabulary acquisition takes place with a conscious mind which involves noticing the elements of language such as the semantic aspects of a language. Incidental vocabulary learning is an important strategy of vocabulary acquisition which involves extensive reading and listening (Zarei, 2010). However, it is believed that incidental vocabulary learning is a slow process with a small number of words learnt this way. This does not contribute to long-term retention of words.

The above argument initiated Souleyman (2009) to carry out a study to compare implicit and explicit vocabulary acquisition. Implicit instruction leads to incidental vocabulary acquisition whereas explicit instruction leads to conscious mind of vocabulary acquisition (Souleyman, 2009). Multiple exposure of a word that promotes incidental nature of vocabulary acquisition is also as important as learning words` meaning only by explicit vocabulary instruction (Hulstijn (2001) as cited in Souleyman, 2000). As such Hulstijn (2001) encouraged foreign language learners to engage in extensive exposure of words to enhance repeated encounter of the words.

There are a number of limitations on incidental vocabulary learning as discussed by Lee (2010). According to Lee (2010), only few words could be acquired through this way. Besides, it is also a time consuming process and it is not error-free. It can be concluded that instructions to promote incidental vocabulary learning are as important as explicit instruction in the aspect of vocabulary acquisition.

However, researchers are giving more attention to explicit vocabulary instruction including demonstration (using picture or gesture) and verbal explanation, compared to instructions involving incidental vocabulary acquisition.

According to Schmitt (2000), incidental instruction is much less preferred by the educator due to the lack of availability and exposure of the methods to them. In addition, the incidental acquisition involves contextual guessing of unknown words which in some cases is not even easy for an educated adult. According to Schmitt (2000), 5 to 16 exposures are needed to fully acquire a word. There is a probability of 5% to 21% of acquisition in the first exposure of target words (Knight (1994) as cited in Ma 2006).

The educators find the methods such as using computer, video, communicative task or information gap activity being able to enhance the incidental vocabulary acquisition beyond their reach. They fail to realize that methods would actually facilitate them in word exposure in short period of time.

Researchers believe that extensive reading is the best way to enhance incidental vocabulary acquisition (Ma, 2006). This claim is no more true because in recent years the development of technology and software replaces the reading materials. Incidental vocabulary acquisition has become an easy way to promote vocabulary acquisition by introducing technology in language instruction.

Lee (2010) stated that there are limitations on incidental learning although it is considered a good strategy for vocabulary learning. The first limitation is the small number of words that can be learnt this way. Secondly, the process of inferring meaning may not be error-free. The third limitation is that incidental learning is a slow process.

2.4 Relevant Studies in Vocabulary Acquisition

There is no particular theory to explain the acquisition of vocabulary in second language learning because research is the area is carried out indirectly. This is because the mental lexicon involved in vocabulary learning cannot be seen physically (Schmitt, 2000). As such, Second Language Acquisition needs to be studied and this study is believed to be able to contribute to the body of knowledge of vocabulary acquisition. The teaching of vocabulary is not an easy task as it involves mental operating system. This is because vocabulary acquisition is an integral part of mental operating system which involves deep processing (Kersten, 2010). According to Kersten (2010), deep processing takes place when the learners are actively involved by connecting verbal and non - verbal items. Therefore, methods of language input which involves mental operating system play an important role for vocabulary acquisition.

There is no single instruction adopted by the students to learn vocabulary. It is an instruction involving a mixture of methods (Suraya, 2007). According to the research, vocabulary acquisition means developing functional lexicon where the learner must be able to know the connections between morphological, semantic, pragmatic and emotion. This mental process is not easy as it consumes more time and effort.

Suraya (2007) conducted a study on 102 students of University Technology Mara (UiTM) to identify the vocabulary instruction preferred by ESL learners. In her study, students prefered the vocabulary acquisition based on self-initiation more compared to the guessing strategy and dictionary method. Self-initiated instruction of vocabulary acquisition involves the activity of keeping systematic notes on vocabulary items and reviewing the records. However this strategy is used only by good learners.

In a study conducted by Zarei (2010), there are some disadvantages of using computers for language teaching; learners may waste time due to the lack of knowledge in computer skills. Computers are believed to hinder the communication between learners. Furthermore, computers can only be used in certain class activities.

Contextual guessing was also researched as a method of vocabulary acquisition. However, in this method, a learner needs to know more words in the text before guessing. Initially, reading was found to be meaningful instruction to acquire vocabulary. Then the research on translation bloomed and it was overtaken by communicative instruction. Recently, vocabulary acquisition research is more focused on reading. Researchers believe that extensive reading facilitates vocabulary acquisition. As such, there are more studies on types of glosses and reading text for vocabulary acquisition (Zulkifli, 2007).

Besides that, the ability to use the dictionary efficiently is considered to be an important skill to master vocabulary (Shillaw, 1995). According to Shillaw (1995), vocabulary acquisition can be acquired by looking up the meaning of a word in a good bilingual or monolingual dictionary and memorizing them. Apparently, learners who use dictionary can improve vocabulary acquisition only to a certain degree. On the other hand, looking up dictionaries need skills and the ability to understand the abbreviations. To master the skills, the learner needs to have very high internal motivation to learn the language (Wolter, 2015).

According to Wolter (2015), the teachers should conduct training on how to utilize the information in the dictionary to benefit the learners. However, many students do not have a desire to use the dictionaries. Therefore, it can be concluded that, vocabulary instruction using dictionaries may not be an efficient way for all levels of learners as one needs to master the skills to look up the meaning with high internal motivation.

Glosses provide additional information about a word in text and it becomes a mediator between the text and the learner. It is known that the glosses can reduce students' burden to look up in a dictionary and prevent learners to infer wrongly about the text.

How effective are the glosses as vocabulary acquisition instruction is still a controversial issue which is being debated by researchers. It seems that glosses help more in reading comprehension rather than vocabulary acquisition. This is because a learner will look for the meaning of an unknown word when reading a text and the meaning is used for text comprehension and not for vocabulary acquisition. Therefore, it will facilitate incidental vocabulary learning but there is always a question as to whether the glosses facilitate in word retention.

Task based Language Learning enables more negotiation of meaning which brings about language acquisition, in particularly vocabulary acquisition. However, this depends on the familiarity of the learners to the given task (Arslanyilmaz, 2010). According to the researcher, the learners who were familiar with the task were more involved in the negotiation of the meaning than their peers who were not familiar with the task. It is important to increase task-familiarity in order to promote comprehensible input, which will lead them to vocabulary acquisition.

Furthermore, according to the researcher, the task acts as a model for the learners in using proper vocabulary and sentence structures during negotiation of meaning. In other words, the learner tends to replicate the dialogue from the video when the discussion on the task is taking place.

It can be concluded that there are various forms of vocabulary instruction that can be applied such as reading, contextual guessing, using dictionaries and task based learning. In spite of that, leaners prefer vocabulary instruction using technologies.

This is proven by a study conducted by Wolter (2015), whereby college-aged English Language learners prefers to use smart phones or online dictionaries rather than using a dictionary to look up the meaning of a word. This is because the learners face some disadvantages when the technologies are not introduced in the vocabulary acquisition instruction.

For example, looking up the meaning of a word in a dictionary requires skills to be learned and developed. According to Walker (2015), the learners need to master the abbreviation before utilizing the dictionary maximally. On the other hand, for contextual guessing, a learner needs to know more words in the text before guessing. Reading instruction for vocabulary acquisition is time consuming and learners need to read extensively before improving the vocabulary. Task based vocabulary instruction is only effective when the learners are familiar with the task being carried out. Educators' preference for the conventional vocabulary instruction despite its disadvantages could be due to the lack of research and exposure to vocabulary instruction using the technology. In fact, the research on technology is still new and is vague to language practitioners.

Unlike glosses, the multimedia technology promotes both incidental vocabulary learning and word retention (Chun, 2016). As such, the researcher advocates on investigating how video helps in vocabulary acquisition and word retention.

2.5 The Use of Technology in Teaching Vocabulary

Technologies are widely used in improving every aspect of a language including speaking, listening, writing, pronunciation, grammar and vocabulary (Chun, 2016). Chun (2016) identified multimedia technologies such as wikis, chat, mobile phones, computers, video captioned, internet and software designs which are used to facilitate language learning.

This proves that vocabulary acquisition instruction is going through an evolution and is constantly changing. If the syllabus designers and language practitioner neglect this scenario, it would be a massive waste in language development. CALL offers L2 students the opportunities for vocabulary practice and learning beyond the pencil and paper activities. The CALL program can be designed according to a learner`s preference. The design depends on what type of vocabulary is to be learned, whether receptive or productive or the availability of the program to the learner or the level of motivation of the CALL program to the learner. Apparently, the CALL program can be designed according to the learners` needs.

Possessing a note book for vocabulary acquisition was practiced since 18th century where new words with the meanings were either written in L1 or L2. This method involves the cognitive process of vocabulary learning for long time retention. However, it has been proven wrong by Fritz (2013) where the vocabulary retention using the note book with CALL program.

According to Friz (2013), repetition is not always necessary for long term retention of a word (Ma, 2009 cited in Fritz, 2013). The study conducted by Fritz (2013) has shown that for short term memory, both vocabulary notebook and CALL program showed equal gain, however, the CALL group performed better than the notebook group in the long term with smaller negative gains (i.e. forgetting words).

The scores for the CALL group declined 5%, and the vocabulary notebook group declined about 14%. In this modern world, reading materials are incorporated with technology. As such, technology plays an important role in language learning.

2.5.1 Audio

In incidental vocabulary learning, listening plays an important role with more research work being carried out on modified oral input such as stories, lectures, teacher talk and music.

In a study conducted by Elley (1989), listening enables learners to acquire incidental vocabulary. According to the researcher, young school children in New Zealand were able to acquire the target words after listening to a story read aloud although the teacher gave no explanation to them. Vocabulary acquisition involves a large area including word storage in mental lexicon and retention (Chun, 1996).

Listening and visual are two important modes to master language learning. Researchers are looking into the perspective of language learning by investigating how both listening and visual play an important role in language competency (Wagner, 2007). In a study to compare how video affects listening skills, it was revealed that the learners viewed video as a reliable source of information when the audio provided inadequate of information.

According to Wagner (2007), the learners spent two third of their time looking at the video throughout the listening test. This proves that, learning would be unsuccessful when the learner has to go through a stage where there is lack of information input due to low proficiency among the learners. Therefore, video and audio need to become vocabulary instruction input for the vocabulary acquisition to take place.

2.5.2 Multimedia

Multimedia technology is a mediator for the second language learning and its wide introduction has proven to be an advantage for both learners and educators.

Table 2.1: Technology as tool or mediator for SLA instruction (Chun, 2016)

Learning Outcomes	Technology Used	Sample Studies
L2 Speaking	Oral chat (SCMC&ACMC);	Abrams, 2003
	Oral chat (SCMC)	Payne & Ross, 2005
L2 Listening	Subtitle & transcript; video	Grgurovic & Hegelheimer, 2007
	Captionining	Sydorenko, 2010
L2 Reading	Hypermedia programs	Al-Seghayer, 2001;Yanhguas, 2009
L2 Pronunciation	Computerized speech Lab,	
	CSL + web-based annotation tool	
	With video; signal/speech processing	
L2 Vocabulary	computer, mobile phone; video	Stockwell, 2010; Winke, Gass &
		Sydorenko, 2010;Yoshii, 2006.
L2 Grammar	audio, captions, internet reading	Cowen et al., 2014;Kessler, 2009
	Program ICALL + corpus analysis;	
	Wikis	

Multimedia has facilitated vocabulary acquisition because it enables the multimodal presentation of a word. A study by Chun (1996) revealed that the results of incidental vocabulary learning using multimedia program, CyberBush were overwhelming. CyberBush is a reading program with hypermedia application with different types of information about the word. Chun (1996) conducted a study on 160 second – year German students at three universities to investigate how different types of annotation (text, pictures and video) facilitate vocabulary acquisition.

The learners revealed 25% accuracy on production tests and 77% on recognition tests which showed significantly higher scores for annotation with pictures + text than for those with video + text or text only. Chun (1996) concluded that a word is learned easily with the actual objects or imaginary techniques. According to Chun (1996), there is a higher incidental learning when words are annotated with pictures and text, compared to video and text or text only.

In a study on multimedia and vocabulary acquisition, Kim (2008) conducted an experimental study using pre-test and post-test to prove that visual text and added graphics or visual text, added spoken text, and added graphics instruction facilitate participants to learn even better. However, Kim (2008) claimed that too many elements of a word can lead to an overload and disruption of mental processing of words. This is because the learner may have reduced attention on the words when a picture is added to the text. In his study, Kim (2008) agreed that learners performed well when there were graphics that illustrate what the vocabulary means. However, the researcher has a slightly different opinion from Chun (1996), where he claimed that multimedia instruction needs to be presented in a limited element that enables the learners to process without disturbing the focus on the word.

Research on multimedia and vocabulary learning does not stop but it changes its evolution according to the technology. Paul (2012) conducted a study on an authentic video using different subtitle modes; Intralingual, Interlingual, dual and no subtitles. Six target words from the video were used in the study to investigate if the learners were able to learn vocabulary incidentally.

Since the recent technology has allowed transcriptions of online videos, it would be better for language teachers to provide a better platform to acquire vocabulary. As such, Paul (2012) conducted a research to find out how video and subtitles facilitate vocabulary acquisition. It was found that, the learning of vocabulary was strong when the participants viewed the Japanese subtitles and dual subtitles.

The students who were presented with a trimodal input of subtitles experienced difficulty understanding the video. However, the same group of students felt it easier to read the subtitles when presented only the with intralingual subtitles.

Since gaming has become part of learners` lifestyle, video-games too are becoming a mediator of vocabulary acquisition. Video-gaming also promotes cognitive learning and it is becoming a popular means of language learning, particularly, vocabulary. The advantage of video-gaming is highlighted by comparing it with the traditional method of computer assisted instruction. In the study conducted on young learners by Gorjian (2012), there was a positive influence in young learners using video games compared to computer-assisted instruction in terms of the vocabulary acquisition. The researcher proved that, input that captures learners' attention to engage in the learning process will elicit better results. This could be due to mental focus and affiliation to learn, which lead to positive acquisition.

Thus, it is important for the educator to choose the best modality of input for language development to take place. When the learner actively engages in the struggle to acquire knowledge, then there will be a positive result. Since the modern era, learners are easily attached to the technology so it would be advisable to embed the multimedia technology in language acquisition, particularly vocabulary.

However, video games may create a complex environment that may hinder learning. This is because video games require players to engage by pressing a button while attending to oral and textual languages. The cognitive load of input has been enhanced and this may interrupt learners` language learning. In a study on video games conducted by Kuwada (2010) to investigate whether or not the content of video games and its interactive performance hinder the learner with the cognitive load, it was revealed that the learners performed poorer than the watcher.

This is because the learners need to attend to various audio-visual presentations besides their interactive performance. The researcher concluded that the physical interactivity in the video game is extraneous cognitive load, that is, the interactivity was not conducive to learning and it seems to have unnecessarily diverted the players' attention from the vocabulary and hindered recalling.

The video game used in the study, as conducted by Kuwada (2010) comprised of animated characters with audio and visual information only. This is considered minimal input that would facilitate vocabulary acquisition rather than being a hindrance for language learning environment. It is proven here that, audio and visual input is enough for the vocabulary acquisition to take place. As such the researcher uses video which is believed to facilitate acquisition rather than being a hindrance.

Wakely (2003) suggested using the multimedia technology to elicit better results in vocabulary acquisition. On top of this, a research conducted by Nazri (2007) on vocabulary acquisition also confirmed the suggestion made by Wakely (2007). Nazri (2007) in his study worked to find vocabulary acquisition in low and high proficiency learners and he concluded that there are five ways used by the learners to acquire vocabulary; Determination, Cognitive, Memory, Social and Meta-Cognitive.

According to Nazri (2007), a research among 100 second semester students of Queensland university, revealed that the most frequently used vocabulary instruction includes songs, films or computer games. This is because the multimedia is more fascinating and it creates excitement; as such the learner is more susceptible to learn new words using either conscious or unconscious mind. It can be concluded that, vocabulary instruction based on metacognitive which involves multimedia does facilitate in the vocabulary acquisition.

Tatsuki (1999) states that learners who read illustrative sentences or sentences taken from a scene in the movie to model the correct usage of a target vocabulary scored better in a multiple choice test than those who read the narrative only or read the narrative and watched the video. She also argued that visual multimedia would be helpful not only in recalling new words but also to remembering the words for the long terms.

Text annotation with different types of multimedia enhances vocabulary learning compared to learning text alone. A study was conducted by Chun and Plass (1996) to investigate vocabulary learning by comparing the text and another text with different annotation.In contrast to the above study, a study conducted by Mayer (2002) found that too many multimedia messages would reduce the amount of attention to the text.

According to Mayer (2002), presenting many components of visual or verbal form reduces the ability to learn and retain vocabulary. However, in a study conducted by Kim and Gilman (2008), instruction based on visual text only may not allow learners to apprehend the meaning.

According to them, “taut” which means “pulled or stretched tight” is not enough for a learner to explain what that definition means. They agreed with Mayer (2001) that a combination of visual text and graphics allows meaningful learning. This is because the processing of visual text takes place initially in the nonverbal channel and moves to the verbal channel of the brain, which allows learners to interpret it into meaningful learning. Therefore, this study advocates that two channels of the brain by combining two visual and audio in vocabulary acquisition and how these a affect their learning outcomes necessitate further studies.

2.5.2.1 Video and Vocabulary Acquisition

In a multimedia environment, the video can be presented in many ways; video with caption; animation series; YouTube video; DVD movies. Video is a multimedia tool consisting of verbal and nonverbal presentations with images, story or on-screen text (Mayer, 2002). According to Lin (2004), the video material with animation enables low level proficiency learners to acquire vocabulary. Video motivates the learners, besides creating authenticity and a real-like environment (Gezegina, 2014). According to Gezegina (2014), learners performed differently when learning materials advocate different senses. A video project is also used as an instruction- base for language learning, whereby it was used widely in The American Hebrew Academic Flip video cameras to improve Hebrew language and also in Russia to learn the Russian language (Jones, 2012). The researcher claimed that the project involved the preparation for lesson such as introducing or reviewing vocabulary, phrases, or structures that the students may need for their projects.

The Interaction among the students during the video shooting will be an advantage for language learning. Initially, video was introduced in classrooms for the development of listening skills. The introduction of a video project enables the learner to improve writing and speaking skills (Jones, 2012).

The role of video in task-based language learning comprises of digital story telling of personal stories with still images that includes the experience with some emotional values (Jones, 2012). According to him, this task involved software such as Movie-Maker, which is available on the net or online sharing with real-life communities.

On top of that, storyboarding which involves video or still images can be created using YouTube or other softwares and can also be published online for sharing. Jones (2012) suggested that videos created by the learner, such as VoiceThread; is a way of collaborative audio authoring tool involving language learning within the community because it allows commenting on the story.

Captioning the video enhances language learning by offering the learner ways to comprehend the video. Video is a flexible learning input as it allows useful pedagogical adaptations; such as muting the audio, displaying or hiding the video, or calling up transcripts, or partial transcripts (Jones, 2012). According to Jones (2012), this feature is used in language teaching in which the caption can be hidden, generated and edited or even translated into other languages.

Video captioning promotes incidental vocabulary learning as it could be the initial step in vocabulary acquisition before the retention or the productive stage of a word. Captioned videos aid vocabulary acquisition by promoting form-meaning mapping and helps in connecting auditory by visual input (Sydrorenko, 2010).

In a study conducted by the researcher on the effects of caption on listening ability it was further concluded that cognitive systems interconnect with auditory and visual processing. Thus, listening with captions aids in increasing comprehension and processing depth. However, the researcher revealed that for the low proficiency learners the caption should be presented in key words rather than in the long sentences because it may impose a large cognitive load. These results proved that captioning video as a vocabulary learning input would not be favorable for low proficiency learners. It can be concluded that video as a multimedia mediator can be introduced in language learning, particularly vocabulary acquisition, according to the creativity and language proficiency of the learner. The present study on the video investigates how the bimodal input promotes vocabulary acquisition.

2.5.2.2 Video vs Audio

Video has the visual support which means the visuals match the verbal explanation closely (Allan, 1985). According to Allan (1985), this gives more information about the words conveyed. As such, videos can be used as an aid in vocabulary acquisition. Videos provide a learner with verbal and non-verbal information as shown in the figure below.

Verbal	**Non-verbal**	
	Vocal	**Visual**
Speech	Accent Intonation Stress	Gesture Facial expression Posture Proximity

(adopted from Allan, 1985)

Figure 2.1: Information provided by video

The researcher claims that when a learner hears a word ‘surprise’ with the facial expression of raised eyebrows from the visual information, then there is a very high possibility for the learner to guess the meaning of the word ‘surprise’.

Furthermore, the learner would be able to obtain clues from the setting of the video after watching it. On the other hand, textbook and audio materials do not provide real detail and they usually leave the learners with information gaps. Video helps the learners to understand the language used in real situations. As such, the learner might feel more confident in their ability to cope with real situations (Allan, 1985).

Textual information can be learned through visuals (Zulkifli, 2007). Mayer and Anderson (1992, cited in Zulkifli, 2007) conducted a study on students to investigate the retention of information on car mechanics. They provided three different types of messages; labelled illustrations, unlabelled illustrations and labels without illustrations. The study proved that the students provided with labelled illustration performed better in terms of remembering explanatory information.

Knowing a word starts from a neutral stimulus, for example the word ‘sit’ is understood by a child when the word ‘sit’ is represented by the physical act of ‘sitting` (Hoff, 1993). The researcher argued that vision is the first sensory system that a child controls and is the most important agent to stimulate bonds between human in the process of capturing information for language development.

It is important to establish, however, that sound plays an important role in learning as claimed by Hoff (1993). An infant is born with an ability to discriminate sounds. When learning a new word, a child can use visual or auditory cues. According to the researcher, a child can recall pictures better when a word is cued with pictures.

A child, too can recognize a word with auditory cues. It is proven that humans have the ability to learn new words with the auditory or visual ability. Nevertheless, the study proved that word recall happens well when the new word is supported by picture cues. Repeating unfamiliar words is important in acquiring vocabulary in working memory.

Once a new word is recognized from either visual input or audio input or both, it goes into working memory which is subsequently transferred to long-term memory. As such, various techniques are adopted to teach vocabulary items. ESL learners advocate many strategies to learn vocabulary including knowing the translation of the new words (Kim, 2008). According to Kim (2008), this strategy requires the learner to memorize the pair words. However, in some countries such as South Korea, students prefer to have written text alone because they are more familiar with memorizing techniques.

Kim (2008) further explained that a word represented with graphic motivates the learning of vocabulary. The researcher proved that the vocabulary instruction with only visual text helped the learner to learn vocabulary more effectively than the added spoken text.

This study is carried out to look into the meta-cognitive strategy on how the video facilitates memory and vocabulary acquisition. This study also states that different types of information can be incorporated with pictures or videos. As such, this research has taken into account the importance of incorporating multimedia technology in language learning, in particular vocabulary, to find the best way for vocabulary acquisition.

2.5.3 Studies in Malaysia

Recently government schools in Malaysia made the effort to connect more than 10000 government schools through the internet with the help of YES 4G connectivity. This is to provide a single learning platform for the learner and the educator to engage in a fun yet simple Virtual Learning Environment (VLE) (retrieved from https://frogasia.com/en/1bestarinet on 29.01.2017 at 3.12pm). According to a research conducted by Kandasamy (2013), SMART SCHOOL was introduced to equip the schools with the internet and technology facilities. Although many teachers agree that the use of ICT can change the attitude of the students` when it comes to learning English Language in schools, however 80% of the teachers claimed that they did not have enough time to prepare modules for the lesson (Kandasamy, 2013). As such, the teachers become less computers savvy and neglect the use of ICT during lessons in classrooms. Consequently, learners do not benefit enough from the technology usage in language teaching and learning. This study is aims to use a conventional technology such as the video to promote English Language Learning. The study on the Second Language acquisition focuses on uses of multimedia technologies. This research focuses on the modality input in language learning.

According to a study conducted by Teh (2004), students in Malaysia do not engage in vocabulary learning activity. According to him, this activity has the lowest ranking among language activities in the classroom. Vocabulary learning strategies that most Malaysian students prefer include referring to dictionaries, guessing words and asking friends and teacher.

Malaysian learners still lack word-level knowledge to cope with their academic courses. This issue is still a major problem although Malaysian students went through a decade of compulsory English Language classes at primary and secondary (Abdullah, 2014). In Malaysia current studies on multimedia are based on the internet and social media such as Facebook (Mohamad Jafre, 2010; Lim, 2012).

2.6 Cognitive Theory of Multimedia

According to the Cognitive Theory proposed by Mayer (2002), information is processed in three systems, namely sensory memory, working memory and long-term memory. When a word or picture is presented, it is captured in our eyes or in ears to activate cognitive processing. In this process, all the information is organized to represent in the form of a picture model or a verbal model.

This knowledge is integrated with other prior knowledge to be stored in the long-term memory. Cognitive Theory is based on three assumptions that they are dual channels, limited capacity and active processing.

The dual channel is similar to Paivio`s Dual Coding Theory, which states that there are separate information processing channels for visual and audio inputs. The limited capacity assumption states that the limited amount of information can be processed in each channel. This is because readers can retain information on images for only a few seconds in their memory. The active process refers to active processes such as paying attention, organizing incoming information and connecting information with prior-knowledge.

Another theory related to Paivio's dual coding theory is the generative theory of Meyer (1997). According to the theory, multimedia instruction draws meaningful learning. Learners of vocabulary known as 'knowledge constructor` interconnect visual and verbal knowledge until meaningful learning takes place.

The learners` engagement in visual and verbal information which is received through eyes and ears, enable them to enter the working memory. This information will be organized by learners in a coherent way by integrating and connecting until it becomes a meaningful learning.

2.7 Dual Coding Theory

This subsection is dedicated to the Dual Coding Theory developed by Paivio (1991). This theory is related to the information processing of visual information which is stored in the memory. According to the theory, both the memory and cognition are two different systems with different functions.

The verbal system and visual system store information in different characteristics. Verbal system stores words and sentences called Logogens which is in discrete but sequential units. On the other hand, the visual system has a picture-like storage called Imagens. The description which is in the form of verbal form has to be lengthier and sequential to achieve higher level of detail.

When describing a human face, both visual and verbal information has to be in different forms to achieve equal input for information processing. In the visual input, a picture of a human face shows all the units of information such as the face shape, eye shape, the nose and the mouth whereas for verbal information all the units shown in the picture need to be described in detail sequentially to reach the same level of detail as in visual information.

Verbal system and visual system are interconnected, which means that the information input for one system can activate the other. For example, a picture of a human face enables one to name the person but on the other hand when the name of a person is mentioned the image is invoked in memory.

There are three levels of processing for visual and verbal input. Those levels are representational, associative processing and referential. Representational processing happens when a stimulus is given to activate a particular type of memory code. For instance, when a learner sees the word "food", the verbal code is activated and if the picture of food is given to the learner, then the visual code will be activated.

Associative processing refers to the activation of other relevant information with verbal or visual input. This is because the visual system is related to other words, images, events or objects.

Referential process refers to the activation of both visual and verbal memory. Therefore, the Dual Coding Theory states that when both codes are activated together, the information is retained longer and can easily be retrieved.

This has been proven in a study conducted on children who listened to a story while viewing relevant pictures and they were able to recall more information compared to those who only listened to the story (Levin and Berry, 1980 in Raine, P. 2012).

The study is based on Cognitive Theory of Multimedia by Mayer (2001) and Dual Coding Theory by Paivio (1991). A cognitive theory of multimedia learning is based on three main assumptions: there are two separate channels (auditory and visual) for processing information; there is limited channel capacity; and that learning is an active process of filtering, selecting, organizing, and integrating information (Mayer,2001).

The first assumption is related to Paivio`s Dual Coding Theory which states that there are two separate channels (auditory and visual) for processing information. Mayer (2001) argued that brain interpret a multimedia presentation of words, pictures and auditory information in selected and organized way to produce logical mental constructs. It can be concluded that Mayer (2001) supports Paivio`s Dual Coding Theory.

However, focus is given to Dual Coding Theory, so the theoretical framework of this study is based on the theory. According to Dual Coding Theory, information processing involves visual system and verbal system. Interconnection of these systems helps in information input.

In this study, information of target words are the visual obtained from video and verbal obtained from audio. Activation of both visual and audio helps the information or meaning of target words to be retained longer.

2.8 Conclusion

This chapter has reviewed the various literatures on vocabulary acquisition. Based on the review, vocabulary instruction is an important aspect in incidental vocabulary acquisition. The literature on vocabulary instruction proves that vocabulary instruction based on multimedia provides better vocabulary acquisition.

Considering the importance of vocabulary acquisition in language learning, this study aims to explore learners' vocabulary acquisition using video. The following chapter describes the methods used to conduct this study.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The present study investigates the two environments of vocabulary acquisition on secondary school students and their attitude towards vocabulary acquisition in the two different environments. The two environments are video and audio, where both advocate the same content. Video is audio plus visual whereas audio has all the components except for the visual. Two groups of subjects were used in the experiment. Details about the subject, materials, instrument, procedures, research design and data analyses are described in this chapter.

3.2 Subject

The subjects were 20 Form 4 students from a secondary school in Port Dickson. 20 students were chosen, unlike 50 students in a previous study (Gazegina, 2014). This is because it was difficult to find homogenous students with similar levels of proficiency. The students were from an excellent class, Form 4 Berlian which consists of 30 students who obtained a score of 48 % to 68 % in the school Mid-Term English Language Examination scoring. This school is located in Lukut, Port Dickson. The subjects` first language is their mother-tongue which includes Tamil, Mandarin and the Malay language.

The subjects were from a homogenous population because they were chosen based on their English Language marks in the school Mid-Term Examination ranging from 55 % to 64 %, which is equivalent to a Grade C according to the school examination grades. The teacher did not teach vocabulary explicitly but emphasized on the meanings of words during the English Language lessons.

The homogenous subjects were chosen because they were available and were willing to be studied. As such, convenient sampling was administered to form a group of participants (Creswell, 2012) .

Table 3.1: 20 subjects with their Mid-Term scores in English Language paper

No	Name	Gender	Marks	No	Name	Gender	Marks
1.	Student 1	M	56	11.	Student 11	F	56
2.	Student 2	F	56	12	Student 12	F	56
3.	Student 3	M	57	13	Student 13	M	57
4.	Student 4	F	57	14.	Student 14	F	57
5.	Student 5	F	57	15.	Student 15	F	58
6.	Student 6	F	59	16.	Student 16	F	60
7.	Student 7	F	63	17.	Student 17	M	63
8.	Student 8	M	63	18.	Student 18	M	63
9.	Student 9	M	61	19.	Student 19	M	62
10.	Student 10	M	64	20.	Student 20	F	64

The 20 subjects were divided into two intact groups namely, Group AV and Group A. each group consists of 10 students. Group A will be administered with only audio whereas group AV will be administered with video (Audio-visual). Students from number 1 to 10 in Table 3.1 above will be in Group AV whereas students from number 11 to 20 will be in Group A (see Table 3.1).

3.3 Research Design and Data Collection Methods

This study involves both quantitative and qualitative research designs. The quantitative design involves the pre-test, post-test and delayed post-test for the two intact groups.

In the qualitative design, interviews were conducted. 3 students from each group were selected to be interviewed on their learning experiences in the two different environments.

The quantitative data that was obtained from the vocabulary test scores were measured twice, firstly immediately after the treatment and the other, one week after the treatment. Qualitative data was obtained from interviews after the treatment. The qualitative data was taken to enhance the statistical findings.

Research question 1 was answered by comparing the scores in the vocabulary test. The scores were converted to percentage for comparison. The percentage of scores was compared between the pre-test and post-test and delayed post-test of the video and audio respectively. Each category in the Vocabulary Knowledge Scale (VKS) test was also compared to study how the use of video and audio facilitate students` performance in vocabulary acquisition.

Research question 2 was answered from analyzing the students` answers in the interview. The interview gave students` perception on learning vocabulary using video and audio.

3.4 Material and Instrument

The materials used in the study were a British Animated series video (Audio-visual), VKS Tests and personal interviews with open – ended questions.

3.4.1 Video

The video is a British animated series of Paddington Bear with the title Adventures of Paddington Bear 106. The duration of the video is approximately 20 minutes and it consists of three episodes. The first episode which starts from 1.02 minutes to 8.03 minutes is titled Paddington Turns Detective.

The second episode from 8.04 minutes to 15.03 minutes is titled Seeing Is Believing and the third episode starts from 15.04 minutes to 22.02 minutes with the title A Visit To The Theatre. However, only the first and the second episodes will be used in the study. This is because of the time constraint where the video was displayed within the time allocated by the school administrator. Furthermore all the targeted words can be found in the first and second episodes.

The video consists of a few characters with dialogues and Paddington Bear as the narrator. The British Animated Series was chosen because it is a useful learning tool. It is was proven that, the British Animated Series such as "Martha Speaks," "Word Girl", "Doki", "Postcards From Buster" and "Adventure Time" teaches kids to learn how to speak (retrieved from http://www.fluentu.com/english/blog/best-cartoon-for-learning-english/ on 3rd March 2017 at 20:31). This animated series is reported as a useful learning tool because of the following reasons:

a) Has a clear voice with good pronunciation.

b) Contains repetitive words that facilitate the learning of vocabulary.

c) It focuses on social interaction and real world conversation.

A study conducted by Decoursey (2012) on the teachers` attitude towards animation as an English Language instruction tool revealed that the teachers accepted animation as a worthwhile, valuable and satisfactory learning tool. They also agreed that it is suitable and well-received by colleagues and secondary language learners as a language instruction tool.

Similarly, the series used in this study is also presented in a clear voice, where the focus is on social interaction, simple words and repetitive words (retrieved from http://www.fluentu.com/english/blog/best-cartoon-for-learning-english/ on 3rd March 2017 at 20:31). As such the British Animated Series is suitable for all levels for vocabulary acquisition. Its development was in two stages: selecting the video and selecting the target words.

3.4.1.1 Selection of Video and Target words

Video selection was not an easy task as it needed to fit the requirement of the study. The video needs to have the target words and the overall language needs to be comprehensible, in both the audio and audio-video environment (Gezegin, 2014). If the word did not give enough clues for the audio environment, it would be defective. All the target words are the words from the second tier vocabulary words or phrases, which means that the words are used frequently. Second tier words occur in a mature language situation, especially in adult conversation (Schmitt, 2000). According to Schmitt (2000), the words in the second tier are important in reading comprehension, containing multiple meanings and allowing students to describe concepts in a detailed manner. These words are direct instructions because they are good indicators of students` progress in school. There are approximately 7,000 word families in English in tier two (or 700 per year). Some examples of these words are masterpiece, fortunate, industrious and benevolent. Most words in English falls in second tier, as such the target words were chosen randomly from form 4 English Syllabus.

Fifteen target words were taken from the video. Only 15 words were chosen because of the time constraint as the test could only be carried out within a given time as permitted by the school principal.

The words consist of nouns, adjectives and verbs. The words were totally lifted from the video without any modification of the derivative forms. Most of the words were repeated at least twice in the video. Moreover, it was difficult to choose words that were not known by all the subjects.

3.4.1.2 Design

The video was downloaded from free Youtube download version 4.1.1. The video is of original quality and the sound played is via Window Media Player of Window 10. It has a British accent in the dialogues used (see Appendix A).

Below is the list of target words/phrases, categories, the time in the video and the number of times that the words are repeated in the video.

Table 3.2: Episode 1: Paddington Turns Detective

No	Words/phrases	Time/min	Categories	Number of time repeated
1.	Burglary	1.06	Noun	2
2.	Trust	1.09	Verb	2
3.	Detective	1.22,1.26	Noun	2
4.	Reward	2.05,2.06	Noun	2
5.	Equipment	2.41	Noun	2
6.	Disguise	2.51	Noun	3
7.	Clue	3.20	Noun	2
8.	Suspicious	4.56	Verb	1
9.	Trapped	5.54	Verb	2
10	Invisible	6.45	Verb	2

Table 3.3: Episode 2: Seeing Is Believing

No	Words/phrases	Time/min	Categories	Number of time repeated
12.	Legend	8.07	Noun	2
13.	Dizzy	8.48	Adjective	1
14.	Leprechaun	9.42	Noun	17
15.	Convincing	10.20	Adjective	2

3.4.2 Vocabulary Tests

The vocabulary tests used in this study are the VKS test (Vocabulary Knowledge Scale test) developed by Wesche and Paribakht (1996) and fill-in-blank test. Wesche and Paribakht (1996) suggested that vocabulary knowledge scale provides the measurement for meaning, use and accuracy of lexical knowledge (Mukoroli, 2011). The VKS test is based on a self-report on the students` vocabulary knowledge. It consists of 5 levels of description to capture the self-recognized knowledge of specific words. The scales stretch from being unable to identify a word to being able to use the word in a sentence. As such, this test is able to test the students` degree of the knowledge of target words.

3.4.2.1 VKS Test

It is a self-report test with 5 categories to be chosen by the students (see Appendix A). The marking is based on the VKS elicitation scale (Paribakht and Wesche, 1997:180). The five categories (1, 11, 111, IV and V) are as follows:

1 I don`t remember having seen this word.

11 I have seen this word before, but I don`t know what it means.

111 I have seen this word before, and I think it means _____. (synonym or translation)

IV I know this word. It means _____. (synonym or translation)

V I can use this word in a sentence; _____(write a sentence)

(if you do this section, please also do section IV)

These categories are presented to the students together with the target words and they are required to decide the category representing their knowledge of the word. Category 1 and 11 were answered without any evidence that they know the word.

As such these categories depend on the students` honesty when answering the questions. Category 111 and 1V require the students to give a synonym or translation as their evidence for the word meaning. Category IV tests more on their receptive production whereby the students need to write a sentence to show that they are able to use the word.

The scoring scale converts the students` responses into test scores. Category 1 and 11 are given scores of 1 and 2 respectively. Students will be given scores of 2 if they choose the higher category but their responses are incorrect. If the student provides a correct synonym or translation, then they will be awarded a score of 3. Scores of 4 and 5 are awarded for Category V. A score of 4 is given when the student is able to use the target word that fits into the sentence context but is grammatically incorrect.

When a student is able to use the target word in a correct sentence, the score 5 is awarded. VKS test is given as a pre-test and a post-test to the students. The design of the test is presented in Appendix B (see Appendix B).

Table 3.4: Explanation on each categories based on student`s knowledge

Categories	Description	Explanation
I	-The student has never seen the word or cannot recall the word. -The word did not become receptive knowledge of the student.	-Lack/no exposure to the word -Weak/no language input
II	-The student is able to recognize the word. -The student is able to recognize the spelling or the shape and outline information of the word. -The word is in the receptive knowledge of the student.	-Lack of stress on input of the word -Weak language input.
III	-The student may be able to produce morphological information of the word. -The student might have obtained the productive knowledge for the word. -The student moved from receptive knowledge of a word to productive knowledge of the word. -The student is not certain of the meaning. -High probability the student may go wrong.	-The input strength has reached to a level that enables recognizing the synonym of a target word
IV and V	- The student is able to combine the meaning of the word with sentences, phrases or utterances. -The student is able to show the grammatical exactness of the use of the target words. -The student obtained a well-defined productive knowledge of the word. -Minor grammatical mistake is ignored. -Focuses on student`s word meaning knowledge.	-Strong input of the target word

3.4.2.2 Fill-in-the-blank test

Students were given sentences with blanks and they were required to choose the best answer to fit each sentence. Each correct sentence was awarded one mark. There were 15 sentences to be filled in with 15 words (Appendix C). The fill-in-the-blank test was given as a pre-test and post-test to the students.

3.4.2.3 Validating the Test

A pilot study was conducted with 2 students (Student 1 and Student 2). Both students were given the VKS test and the fill-in-the-blank test consisting of 15 target words in 30 minutes. A brief explanation on how to answer the test and the meaning of each category was given to the students. Student A was administered with an animated video and student B was administered with an audio. Immediately after the video and audio ended Student A and Student B were required to answer the VKS test and the fill-in-the-blank test. The tests were marked by two scorers and the Inter-rater reliability was calculated.

The inter-rater reliability was calculated based on level of agreement between raters using Cohen Kappa by Microsoft Excell 2010. The level of agreement was 0.90 and it can be categorized as very good agreement (Creswell, 2012).

From the pilot study the problem faced by the students were identified. It was found that the students did not know how to answer Category IV and V in the VKS test. The explanation was given to the student during the treatment.

3.5 Procedures

The study took place in an ICT room known as Blue Galaxy in the school during school hours. The study was completed in two sessions; the first session involved the video environment and the second session for the audio environment.

Prior to both sessions, the 20 students gathered in Blue Galaxy room and they were informed by their English Language teacher about the study.

Prior to Session 1 and Session 2

All the students were given the VKS test and the fill-in-the-blank test consisting of 15 target words. A brief explanation on how to answer the test and the meaning of each category was given to the students. The test was typed out using New Times Roman with a font size of 12. The test consists of two sections: Section A and Section B. Section A is the VKS test and Section B is the fill-in-the-blank test. Each paper consists of 3 words and the test is printed on one side of the page.

The students were required to answer both sections of the test in 30 minutes. The test papers were collected at the end of 30 minutes. The students were divided into two groups, namely Group A and Group AV.

Session 1 (Audio-video environment)

This session involved Group AV, comprising of 10 students and it was conducted on the same day after the pre-test. The video was played on the screen using an LCD and a projector. The students were not allowed to write anything while the video was played. The video was played twice. Immediately after the video ended, the VKS test and the fill – in – the – blank test were given to the students. The students were required to answer the questions in 30 minutes.

Session 2 (Audio environment)

This session involved Group A, comprising of 10 students and it was conducted on the same day after the completion of Session 1. After the pre-test, the students listened to the audio and were not allowed to write anything while listening. The audio was played twice. Immediately after that, the VKS test and fill – in – the – blank test were given to the students. The students were required to answer the questions in 30 minutes.

Delayed post test

A delayed post-test was given to all the 20 students after one week of the treatment. According to the study conducted by Gezegin (2014), the delayed post-test was carried after one week of treatment. The current study similarly administered the delayed-post-test one week after the treatment. Students were not allowed to discuss the questions (Gezegin, 2014).

3.6 Data Analyses

3.6.1 Quantitative Analyses

3.6.1.1 Vocabulary Tests Scores

Qualitative analysis was carried out after the pre-test, immediate post-test and delayed post-test. Data was collected and analyzed by calculating the mean and standard deviation to find the differences between the mean scores. The pre-test shows the category of the students before conducting the VKS test.

The mean and standard deviation were calculated using Microsoft Excell 2010. The mean provides the average scores of the students while the standard deviation is a summary measure of differences of each data from the mean. According to Creswell (2012) standard deviation provides the dispersion of data from its mean. If the data points are further from the mean, there is higher deviation (Creswell, 2012).

3.6.2 Qualitative Analyses

3.6.2.1 Interview

Six students were involved in a one-to-one interview to support the findings from the quantitative analyses and to elicit information to answer the research question. Three students from the video group (group AV) and audio group (Group A) each with the highest difference in marks between the pre-test and the post-test were chosen to be interviewed.

This is because the students with the highest scores are those who were able to acquire vocabulary without being influenced by other factors such as the interest of watching movie. These students wanted to acquire English Language vocabulary and enjoy watching movies. Student AV1, Student AV2 and Student AV3 were from the video treatment while Student A1, Student A2 and Student A3 were from audio treatment.

This is because the students with the highest scores are those who were able to acquire vocabulary without influenced by other factors such as the interest of watching movie.

3.6.2.2 Interview Questions

The interview questions were designed to answer research question 2 based on a guide in Creswell (2012). The questions were divided into 3 categories as follow:

a) Question AV 3 to Question AV 7, Question AV 9 and Question AV 10 were questioned for group AV.

b) Question 1, Question 2 and Question 8 were questioned for both Group AV and Group A.

c) Question A 3 to Question A 7, Question A 9 and question A10 were questioned for Group A.

The questions were asked to elicit information about students` perception on the following items:

i) English language vocabulary acquisition

ii) Video as vocabulary acquisition tool

iii) Audio as vocabulary acquisition tool

According to Oxford Dictionary, the meaning of the word 'perception' means the ability of being aware through senses and understanding something through mental thoughts. The synonyms are *awareness, appreciation, thought, belief or idea*.

Table 3.5: Interview guide

Perception	Questions
Students` perception on vocabulary acquisition	Question 1 Do you like to study vocabulary in English Language? Why?
	Question 2 What are other ways can you use to improve vocabulary?
Students` perception on video as a tool for vocabulary acquisition	Question AV3 Do you watch video to improve English Language vocabulary? Explain
	Question AV4 How did you feel after watching the video?
	Question AV5 What did you do when you found a new word while watching the video?
	Question AV6 Did the image in the video help you or distract you from acquiring the meaning of the word? Explain.
	Question AV7 How did you learn the word knowledge in the first exposure and second exposure of the video?
	Question 8 Are you confident enough to use the new word in a text or in communication in future? Why?
	Question AV9 What would you suggest to improve in the video to facilitate vocabulary learning?
	Question AV10 Would you like to use video in future to learn new words in English Language? Why?
Students` perception on audio as a tool for vocabulary acquisition	Question A3 Do you listen to the radio to improve English Language vocabulary? Explain
	Question A4 How did you feel after listening to the audio?
	Question A5 What did you do when you listened to a new word?
	Question A6 Did you listen to other words in the audio to help you acquire the meaning of a new words?

Table 3.5: continued

Perception	Questions
Students' perception on audio as a tool for vocabulary acquisition	Question A7 How did you learn the word knowledge in the first and second exposure of the audio?
	Question 8 Are you confident enough to use the new word in text or in communication in future? Why?
	Question A9 What would you suggest to improve in the audio to facilitate vocabulary learning?
	Question A10 Would you like to use audio in future to learn new words in English Language? Why?

3.6.2.3 Interview Responses

Interviews from 6 students were recorded and identified as the subjects` stand on vocabulary learning using the audio-video and audio. Their responses were used to support the results of the quantitative analyses. The students who acquired more words will be chosen to be interviewed. This is to identify the factors that influenced the students to acquire vocabulary in this study.

The interview questions are designed to answer research question 2. The questions are as follow:

Question 1: Do you like to study vocabulary in English Language? Why?

This question is to find out if the students prefer to learn vocabulary. Positive emotion promotes vocabulary acquisition and retention. This is proven by Rahimpour (2013) in his study whereby the students did not prefer to acquire vocabulary because they did not know the importance of learning vocabulary. Krashen (1985) also stated that learners will only 'let the input in' when their emotional state is positive.

Negative perception will become a hindrance to accept language input. Therefore, this question will give information about the students` readiness in vocabulary acquisition.

Question 2: What are other ways can you use to improve vocabulary?

From question 2, the ways used by students to improve vocabulary and also their initial perception on the video can be identified.

Question AV3: Do you watch videos to improve English Language vocabulary? Explain.

Question A3: Do you listen to the radio to improve English Language Vocabulary? Explain.

Question AV3 and Question A3 seek to identify if the students use the video/audio as a tool to improve vocabulary. From the students` explanation, the researcher will be able to identify how the students view the video or audio as a language learning tool.

Question AV4: How did you feel after watching the video?

Question A4: How did you feel after listening to the audio?

From Question AV4 and Question A4 students` interest in video/audio and how it facilitates vocabulary acquisition can be obtained. From the answers given, how their feelings promote vocabulary learning can also be identified. This is important because according to Nazri (2007), students prefer the multimedia technology to acquire vocabulary because it is more fascinating and creates excitement.

It is clear that, emotional aspects are related to motivational aspects to enhance the intellect of a learner.

Question AV5: What did you do when you found a new word while watching the video?

Question A5: What did you do when you listened to a new word?

Question 5 and Question AV5 give a clear picture on the way used by students to learn vocabulary after watching a video. From here, the differences between learning vocabulary from video and other methods can be identified and the information enables learners to know how video facilitates vocabulary learning.

Question AV6: Did the image in the video help you or distract you to acquire the meaning of the word? Explain.

Question A6: Did you listen to other words in the audio to help you acquire the meaning of a new word?

Question AV6 and Question A6 explains how the component of a video image plays its role in vocabulary learning. This question is asked to identify if the image was considered as extra information about a new word and if it did facilitate vocabulary learning.

This question is important as an overload of information is a hindrance to learning. According to Mayer (2002), many visual or verbal components reduce the ability of retaining vocabulary.

Question AV7: How did you learn the word knowledge in the first exposure and second exposure of the video?

Question A7: How did you learn the word knowledge in the first and second exposure of the audio?

Question A7 and Question AV7 provides information as to whether or not the number of video exposures facilitates vocabulary learning. Frequent exposure enables the students to notice, identify the words and increase learners attention and awareness.

According to Ahn (2014), noticing enhances attention which is sufficient in long term storage.

Question 8: Are you confident enough to use the new word in text or in communication in future? Why?

Question 8 gives information as to how video facilitates vocabulary acquisition and promotes language learning. This is because vocabulary acquisition is important in language learning. Students who engage in learning input are able to connect with the pre-existing knowledge (Park, 2013).

Question AV9: What would you suggest to improve in the video to facilitate vocabulary learning?

Question A9: What would you suggest to improve in the audio to facilitate vocabulary learning?

Question AV9 and Question A9 gives information on what students` expectations are during vocabulary learning.

Question AV10: Would you like to use video in future to learn new words in English Language? Why?

Question A10: Would you like to use audio in future to learn new words in English Language? Why?

Question 10 and Question AV 10 give a clear picture on how video influences students` vocabulary learning preference.

3.6.3 Fieldnote

During each session, the students were observed and short notes were jotted down to get information on students` reaction towards the video or audio during the treatment. Information on their body language as well as their feelings were observed.

The data from the fieldnotes were used to answer Research Question 2.

3.7 Conclusion

Chapter 3 has described and discussed the research design, instrument, subjects, data collection and data analyses procedure which are suitable for achieving the research objective in this study. The employment of mix-method which comprises quantitative and qualitative analyses helped the researcher to analyse the findings systematically. The data collection instruments included a questionnaire and interview. The questionnaire was piloted and revised to ensure its validity. Through the interview data, students' perceptions were identified. All data were analysed using a set of statistical and qualitative analyses to provide in-depth answers to the two research questions. The findings and discussion are provided in the following chapter.

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Introduction

The study attempted to explore the vocabulary acquisition on students using video and audio. The students' perceptions on learning vocabulary using video and audio were also analysed. This chapter presents the results obtained from the experiment and the personal interviews with the subjects followed by discussion of the results. Section 4.2 presents the quantitative data. This is followed by section 4.3 which presents the qualitative data. Research question one is addressed through statistical analyses using Microscoft Excel 2010 and Research Question 2 through thematic analyses of students` interview transcripts.

4.2 Results

This section discusses the results in relation to the research questions stated in the introductory chapter.

Prior to obtaining the specific results to answer the research question, descriptive statistics were obtained. The scores of the vocabulary pre-test, immediate post-tests and delayed post-tests were computed and analyzed.

4.2.1 Research Question 1: How do the use of video and audio facilitate students` performance in vocabulary acquisition?

Table 4.1: The mean scores of VKS Test in pre-test, post-test and delayed posttest for each group

Treatment Group	N	Pre-test		Post-test		Delayed post-test	
		Mean	SD	Mean	SD	Mean	SD
Audio-visual/video	10	66.4	10.2	87.1	5.3	88.9	5.7
Audio	10	66.1	11.5	85.3	7.1	84.2	7.3

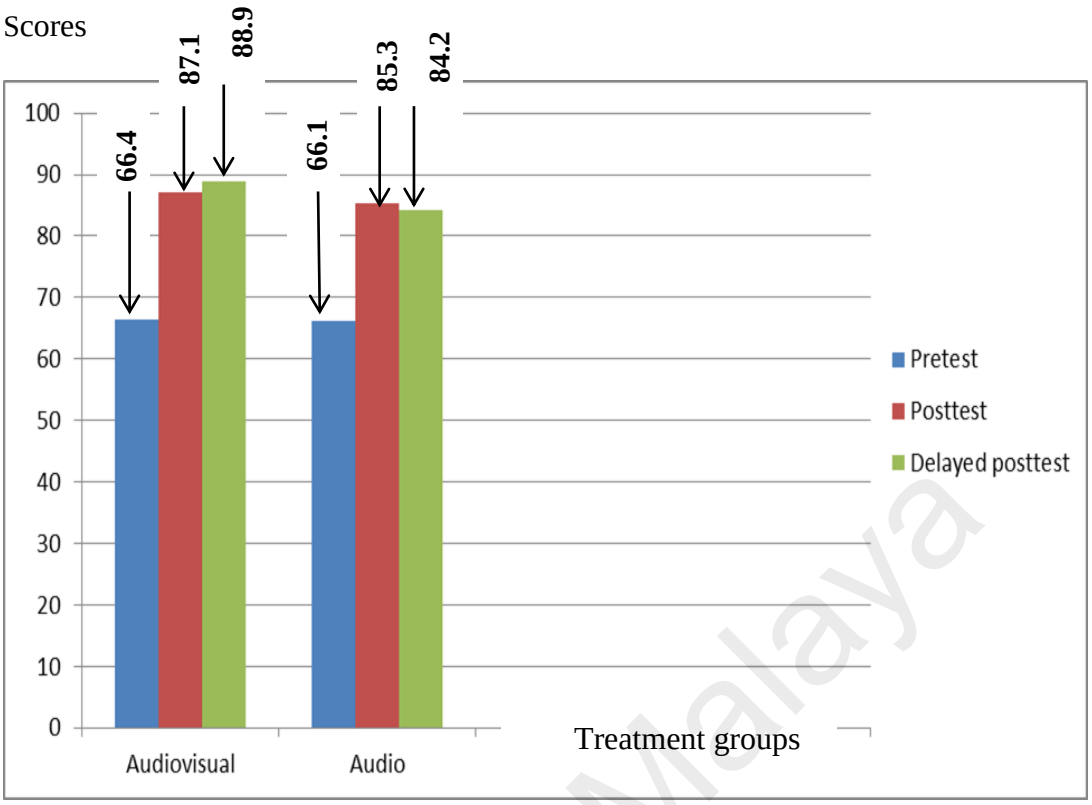

Figure 4.1: The mean scores of pre-test, post-test and delayed post-test for each group in VKS test

The bar chart in Figure 4.1 indicates the scores of the audio-visual group (AV) and audio group (A) of the VKS test. In the audio-visual group of the VKS test, the mean score of the pre-test results was 87.1, which was an increment of 20.7 (30 %) from the mean score of the pre-test (66.4).

In the audio environment, learners too showed an increment of 19.2 of the mean score. As such, it can be concluded that besides audiovisual, audio too facilitates learners to acquire vocabulary knowledge.

Table 4.2: The mean scores of fill-in-the blank test in pre-test, post-test and delayed post-test for each group

Treatment Group	N	Pretest		Post-test		Delayed post-test	
		Mean	SD	Mean	SD	Mean	SD
Audio-visual/video	10	74.6	11.3	81.3	7.5	80.2	7.3
Audio	10	75.9	12.3	92.7	8.1	90.4	7.9

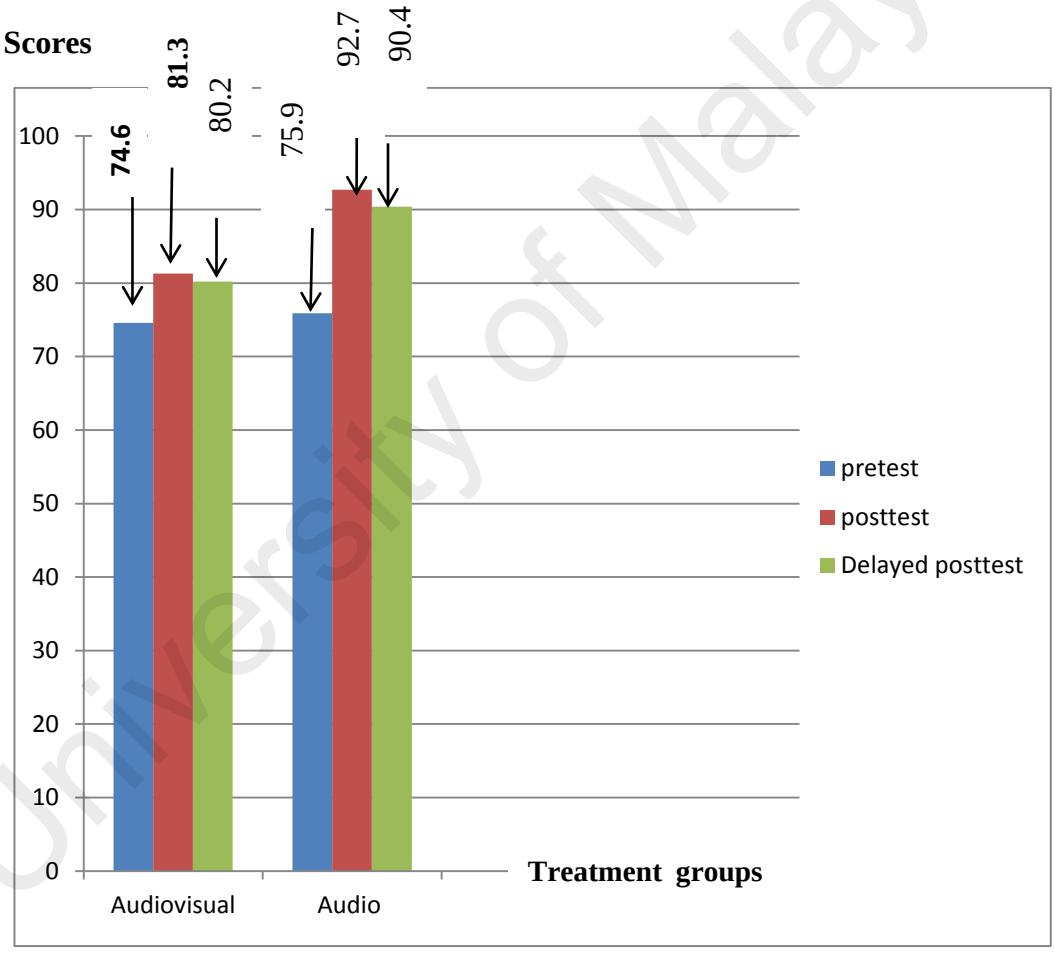

Figure 4.2: The mean scores of pre-test, post-test and delayed post-test for each group in fill-in-the blank test

The bar chart in Figure 4.2 indicates the scores of the audio-visual group AV and audio group A of the fill-in-the blank test.

The fill-in the blank test supported the VKS test as it showed an increment in scores. In the VKS word score, most words showed a shift from category 1 to category III (word not known) or Category IV – V (word known).

Table 4.3: Words showed a shift from category I to V in visual group and audio group

Words from the category IV and category V (known) in the pre-test of group (AV) and group (A)	**Words showed a shift from category I to category V in visual group (AV)**	**Words showed a shift from category I to category V in audio group (A)**
a) Trust b) Reward c) Trapped	a) Burglary b) Detective c) Equipment d) Disguise e) Suspicious f) Dizzy g) Leprechaun	a) Burglary b) Detective c) Equipment

The students used visual information from the video to construct sentences.

For example:

Sample answer student AV 1:

Sentence for the word *Dizzy:*

Pre-test: category 1: *I don't remember having seen this word.*

Post-test: category V: *I felt dizzy after taking the medicine.*

Sample answer given by the student for the word *Dizzy* is based on the visual information from the video (see Appendix D). The student was able to guess the meaning with the help of visual information which facilitated the sentence construction.

This is in accordance with the Dual coding Theory developed by Paivio (1991). The words acquired by the learners from visual are stored in their memory in a picture-like storage called *Imagens*. The learners were to guess the meaning and confirm them by referring to the image that was shown while the word was mentioned in the video. For example, in the study the word *leprechaun* was acquired by 8 out of 10 students after the audio-video treatment. This word was highly acquired compared to the other words because this word showed a high relationship between the word and the image (see Appendix D).

However, in the audio treatment, only 6 students acquired the word *leprechaun* which is lesser than the audiovisual group. This is because according to the Dual Coding Theory verbal, description has to be lengthier and sequential to achieve higher level of details. As such both visual and verbal information has to be in different forms and levels of details to achieve equal input for information processing. This study also proves that audio-visual input activates different types of learning which leads to positive vocabulary acquisition.

According to the Dual Coding Theory, when a word such as *leprechaun* is mentioned in the audio-visual input the visual system activates the verbal system as both are interconnected. So when the learner hears the word *leprechaun*, the visual image of a small, mischievous spirit of visual code appears. As such, the study proves the statement of the Dual Coding Theory which states that when both codes are activated together the information is retained longer and can be easily retrieved.

The number of students scoring in the fill-in-blanks test has increased by 9 % in the video group. On the other hand, it was found that the audio group performed better than the video group in the post-test. This could be because the students guessed the answers to fill in the blanks by eliminating the words with the known meaning.

As such, there is a high probability for them to get the correct answer although they are not sure of their choice of answer.

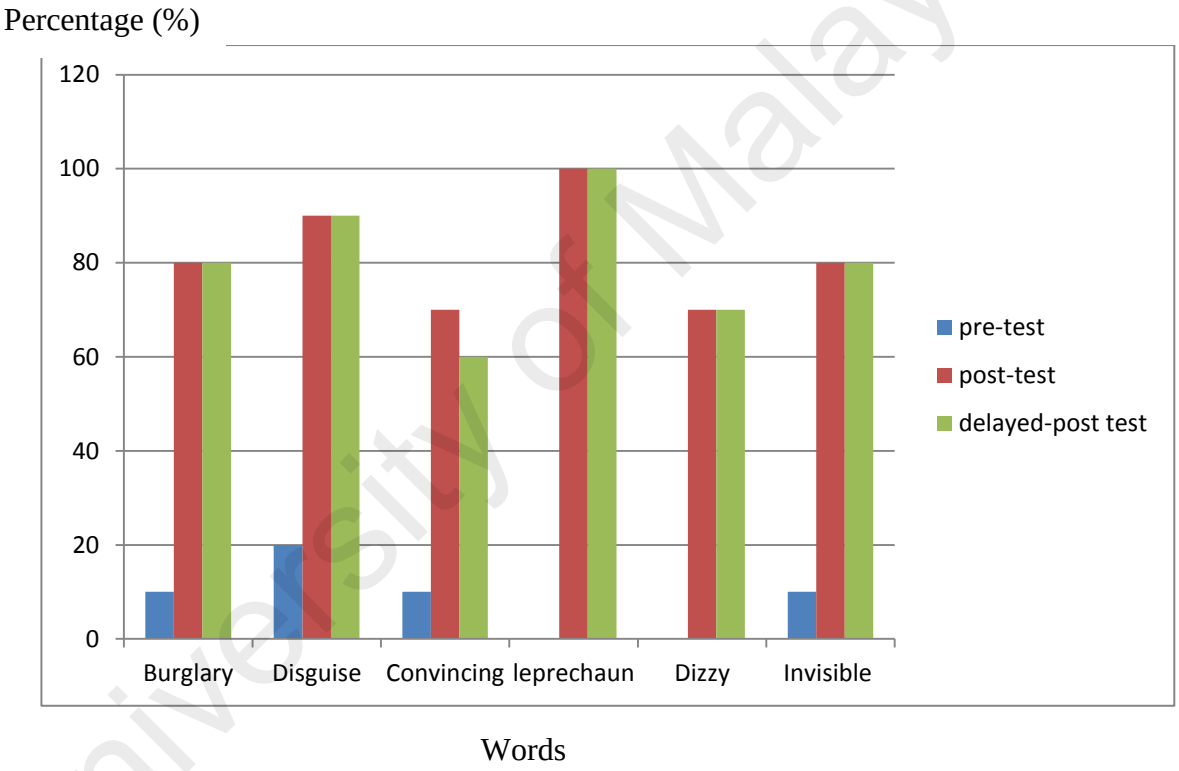

Figure 4.3: The six words with highest percentage number of student acquisition in video group.

From the graph in figure 4.3 *leprechaun* has the highest percentage (100%) of students who acquired the word followed by *disguise* (90%). This could be because these words are repeated more than twice in the video. The word *leprechaun* was repeated 17 times and the word *disguise* was repeated 3 times. These words give similar visual and audio information for the learner (see Appendix D).

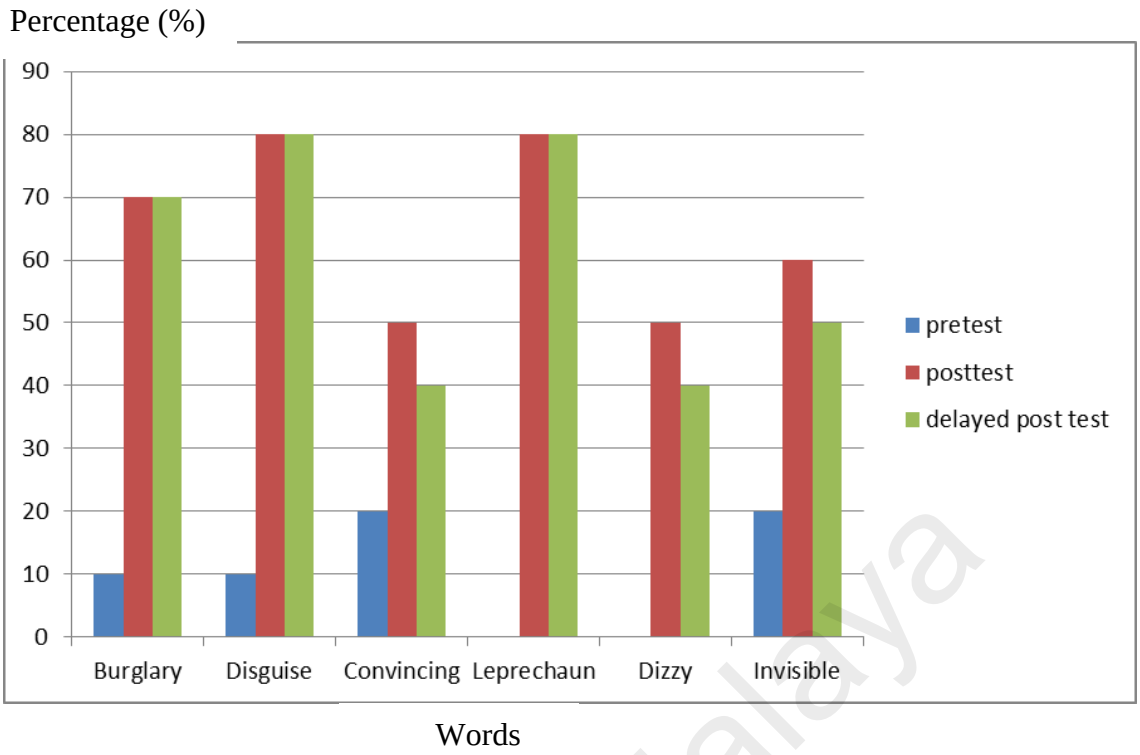

Figure 4.4: The six words with highest percentage of student acquisition in audio group

The words *convincing* and *dizzy* have less percentage of student acquisition. This may be due to fewer repetitions of the word (see Table 3.2 and Table 3.3). Both words appear only once in the video. However, the word *dizzy* was acquired by a higher percentage of students compared to the word *convincing* in the video group and the audio group. This is because the visual information for the word *dizzy* is clearer compared to the audio information (See appendix D).

The visual information of a person in a dizzy state is shown clearly in the video. As such, the students were able to link the word with the visual image.

The word *invisible* and *burglary* have the same percentage of students` acquisition. This could be because these words were repeated more than once and were provided with visual information that enabled the students to associate the words with the visual information (see Appendix D).

The retention of words was higher in the video compared to the audio, which means that the students were able to remember the words better when the words were accompanied with clearer images. This further proves the Dual Coding Theory by Paivio (1991) which states that verbal system and visual system are interconnected and can be activated by one another in the information processing of learners. Thus, this will strengthen the memory and word retention.

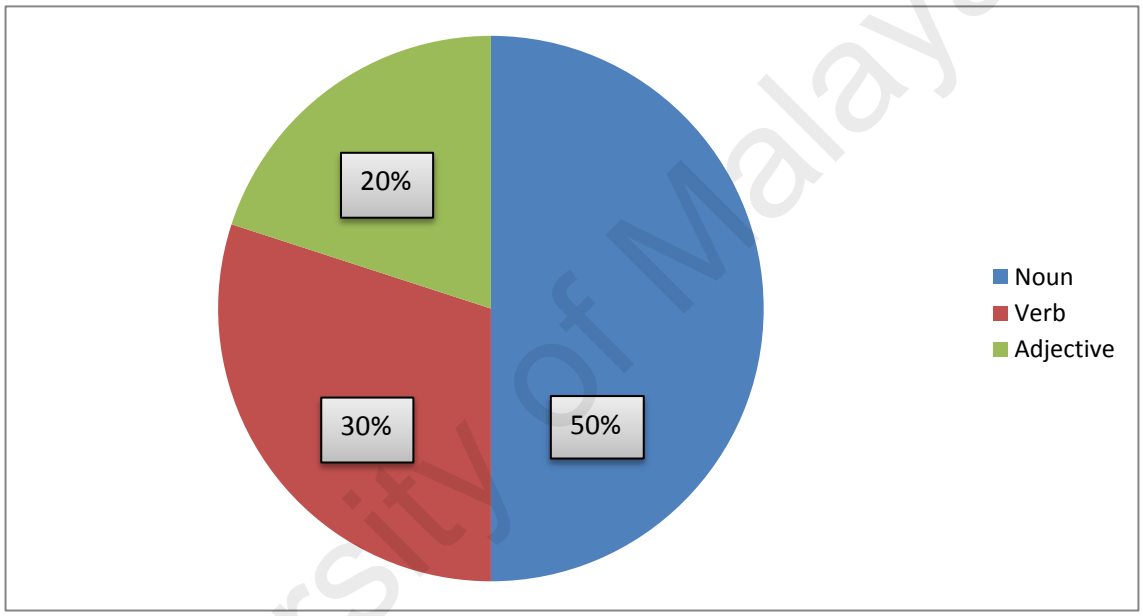

Figure 4.5: Pie chart showing the percentage of students acquiring different categories of words

The 10 words which were acquired by more than 50% of students were grouped. It was found that 50% of students were able to acquire the nouns followed by the verbs and the adjectives.

Table 4.4: Words with more than 50% of student acquisition

WORDS	CATEGORIES
Burglary, Disguise, Leprechaun, Equipment, Detective	Nouns
Invisible, Suspicious, Trapped	Verbs
Dizzy, Convincing	Adjectives

It can be seen from Table 4.4 that students acquired more nouns compared to verbs and adjectives. This may be because the nouns are easily associated with the visuals in the video. The verbs needed explanation for the meaning to be understood by the learners. Therefore, nouns are easier to be represented in the form of images as compared to verbs.

4.3 Research Question 2: What are the students` perceptions on their learning of vocabulary using video and audio?

To answer this research question, a qualitative analysis was conducted to provide a clear understanding of the students` perception on learning vocabulary using video and audio. The thematic analysis based on Creswell (2012) was used to analyze the interview data. The students` perception on vocabulary acquisition, video as a tool for vocabulary acquisition and audio as a tool for vocabulary acquisition were analyzed.

4.3.1 Perception on Vocabulary Acquisition

4.3.1.1 Students` Perception on Vocabulary Acquisition

Student AV1, AV2 and AV3 preferred to learn English Language vocabulary to improve their language proficiency. They agreed that vocabulary is important to improve their language skills. The students` readiness to acquire knowledge very much affects their mental ability to acquire information on vocabulary (Kotler 2001).

Therefore, all the Students (AV1, AV2, AV3, A1, A2 and A3) have a positive readiness towards vocabulary acquisition.

4.3.1.2 Vocabulary acquisition is not easy

Student AV1 and Student AV2 experienced difficulties to memorize the word-meaning alone. So, Student AV3 preferred to acquire new words only when seen in the examination text.

Student A2 and A3 learned vocabulary by translating the meaning of the word to their first language. Therefore, it can be concluded that all the students have the perception that vocabulary acquisition is difficult task.

They believe that mastering vocabulary can only be achieved by going through hard time looking for meaning of words in a dictionary, writing them in a book and memorizing them either in English or in their first language.

This is clearly seen from the interview excerpt of Question 1:

Excerpt of Question 1

Student AV1: Yes. But …i…I dislike to memorize the meaning. Normally my teacher tells us to hafalkan …mmm….memorize the new words. So I find it difficult and I don't memorize.

Student AV3: Yes. I study vocabulary from primary. My English teacher told us to have a book with list of difficult words. She was strict and gave us marks for memorizing words. I go correction (correction was made) through difficult time.

Student A1: Yes. I refer to words in dictionary when I see them in questions. Then I memorize them. Sometimes I remember but most of the time I forget hahah…(.laughing voice).

4.3.2 Perception on Video as a Vocabulary Acquisition Tool

4.3.2.1 Video as an entertainment tool only

In response to Question AV3 all the students from the video group (group AV) and audio group (group A) had a perception that video or audio are tools of entertainment only. After the treatment, the students believed that video and audio can also be used as vocabulary acquisition tools. This can be seen from the excerpt of Question AV3, Question AV9 and Question A10 below:

Excerpt of Question AV3

Student AV1: Mmm…no I watch only on my free time. If I'm bored than I will watch.

Student AV2: Yes ! Yes! I like watching video even from young age. My parents buy cartoon CDs and also songs. But I watch Chinese movie often and I prefer with English subtitle.

Student AV3: No. I just watch for entertainment.

Excerpt of Question AV9

Student AV1: yes, probably video can be used to improve vocabulary.

Student AV2: yeah, I can suggest to my sister to watch more video if want to improve vocabulary

Student AV3: yeah, can.

Excerpt of Question A10

Student A1: can listen to music to learn new words. first I though listening to radio is an entertainment only

Student A2: can entertain and learn language too if listen to radio

4.3.2.2 Video is exciting and relaxing

Students realized that video is one way to acquire vocabulary easily besides creating an exciting mood to know the content in it. This can revealed from the excerpt of Question AV4:

Excerpt of Question AV4

Student AV1: Before start watching I felt excited. But after watching I felt more brave….aaa….. yea more confident. My class friends talk about the video and we use the words in the video.

Student AV2: Excited. Because can relax a while. After watching aaa..i feel want to watch more maybe it was funny. I like watching cartoon from young. After that I talk about the video to my parents while taking dinner. I think maybe Paddington was preparing dinner in the scene (laughing)

Student AV3: Happy and relax. We were talking about the scene of amazing mystic stone in second scene.

The emotional state of a learner plays an important role in vocabulary acquisition. In a study conducted by Rahimpour (2013) on vocabulary learning using video, it was revealed that the emotional aspect is related to the motivational aspect which enhances the intellectual function. This intellectual function facilitates vocabulary acquisition. This study further supports the study conducted by Rahimpour (2013). According to this study, Students AV1, AV2 and AV3 love to watch video and felt less stressed and the cognitive function may have stimulated them to perform better in the vocabulary test.

This study supports the study conducted by Nazri (2007) which revealed that students prefer multimedia when acquiring vocabulary because it is more fascinating and it creates excitement. The incidental learning of vocabulary depends on the emotional involvement of the learners. Negative emotions however, result in avoiding

the activities or input of vocabulary. The researcher concluded that task-related emotional involvement promotes vocabulary retention.

This is shown in the graph in Figure 4.1 of the VKS test of Group AV who performed better in the post-test with a mean score of 87.1 compared to Group A with a mean score of 85.3 in the post-test.

This is because the students of Group AV were excited, comfortable and happy to watch the video than listening to the voice alone by the group A. It can be concluded that the emotional factor influences their perception of vocabulary acquisition using video or audio. The vocabulary retention for audiovisual is also strong with a mean score of 88.9. This is because the students were motivated when they felt happy or excited with the vocabulary input or task.

The results also support the Affective Filter Hypothesis by Krashen (1985) which states that the emotional state enables the learners to 'let the input in'. When the learners do not have positive emotions towards language acquisition, then they will fail to have inner motivation to accept the language input. This will result in a strong affective filter which then disrupts vocabulary acquisition.

From the interview above, it can be concluded that the learners preferred to acquire vocabulary from a method that arouses their interest. This may be because the learning becomes more positive when the learners find the method of input interesting.

4.3.2.3 Video enables visual and words association

According to Students AV1 and AV2, when they found a new word while watching a video they will associate the image with the words. When learning vocabulary, students tend to associate verbal and visual information of the new word.

This strategy was used in the past few decades as an effective means of incidental vocabulary learning. This is proven from the excerpt of Question AV5.

Excerpt of Question AV5

Student AV1: Mmm.. I try to guess the meaning first. Then I compare the word with picture.

Student AV3: I refer to picture. For example the word invisible I learn from the picture that shows the blank page. And also the word leprechaun I refer to the picture where the word is repeated few times few times together with the picture.

In this study, the students were able to associate the visual with the words (see Appendix D). For example, the word *invisible* is learned by associating the picture that showed the blank papers in the video. The word *disguise* too, was learned by associating the picture that showed the steps to hide things, while the word *trap* was learned by associating the scenes in the video (see Appendix D and Appendix E).

4.3.2.4 Video enables guessing the meaning effectively

Question AV6 helped to elicit on the students` perception on the image of the video. It was found that Student AV1, Student AV2 and Student AV3 agreed that the image did not distract them from acquiring new words but it facilitated them in guessing and confirming the meaning of a word.

This can be proven from the excerpt of Question AV6:

Excerpt of Question AV 6

Student AV1: Oh yea.. for the first time the picture was disturbing from listening to difficult words. Maybe because I was focusing more on the story first.

Student AV2: Yea. For first time I did not focus on the new words. I was referring to pictures and the story. Only for the second time I was able to guess the meaning of some words.

Student AV3: yes! yes! first time a..i did not listen to new words but I start guessing the meaning. Only when I listen again, I confirm the meaning. For the second time the image in the video helped me to guess and to confirm the meaning of new words.

The interview with the students also supported the study conducted by Kim (2008). The study conducted by Kim (2008) on the vocabulary acquisition of learners with multimodal input, includes, visual text with added graphics and visual text and added spoken texts with added graphic instruction. The researcher found that learners` with too many input elements did not perform well. The present study revealed that too much information about a word at once may hinder vocabulary acquisition among learners.

4.3.2.5 Video facilitates attention and awareness of new word

Student AV1, AV2 and AV3 believed that more exposure to video helps to increase the attention and awareness of new words. This helped them guess and focus on the words to the image. This can be proven from excerpt of Question AV7.

Excerpt of Question AV7

Student AV1: I can focus on new words better in second view. So I can know the meaning.

Student AV2: In second time. Can`t understand the content better. The any new words we can guess the meaning by referring to the sentence before and after or the overall story.

Student AV3: The first time I see the cartoon I try to understand the story as a whole. And then for second time I tried to catch the new words and think of the possible meaning in the video.

The students suggested that more exposure was needed to acquire some words. During the first exposure, they were only able to guess the meaning as they were focusing more on the image rather than the words. For the second exposure, they were aware of the words and were able to relate the words to the image.

In the interview, students stated that the second exposure provided them more chances to learn new words compared to the first exposure. On the second exposure, the students claimed that they were able to notice and identify the words. This study proves the studies conducted by Ellis`s (1997) and Schimdt`s (1990) which state that vocabulary acquisition takes place with a conscious mind that involves noticing the elements of the language. It could be about noticing the semantic or phonetic aspects of the language. According to the researchers, 'noticing' happens before input converts to intake that facilitates long term memory.

When the video was played for the second time, the students` attention and awareness increased and this caused 'noticing' of words. It can be concluded that visual and audio input creates more awareness compared to the audio only. According to a study conducted by Ahn (2014), noticing enhances attention which is sufficient for long term storage.

According to Ahn (2014), multiple exposure of input may enhance 'noticing'. This study also proves the students` claims that they were able to focus more on words as well as content when the video was played for the second time.

This fact was also proven by the first six words whereby there was a higher percentage of student acquisition due to the repetition of these words more than once (see Table 3.2, Table 3.3 and Figure 4.4).

It was shown that the word *leprechaun* and *disguise* which were repeated more than twice, were acquired by more students. The retention was also higher and the students were able to remember the words.

4.3.2.6 Video creates confidence in communication

Excerpt of Question 8

Student AV1: I can remember the word and image and this help to know where the word can be confused. So I was confident to use them.. haha(laughing).

Student AV2: My friends in the class were talking about the funny character and they use the same dialogue video to talk about it. So after hearing them using in the class, I felt more confident.

Student AV3: yes. I was confident to use the words. All my friends use them and also the pictures in the video also show us when is the best time to use the words in real situation.

Student AV1 and AV3 agreed that memorizing new words was the most difficult task to do. After watching the video, the students believed that their confidence level to use the words was enhanced. This is shown from excerpt of Question Q8.

They started to speak about the content language immediately after watching the video. The video enabled them to relate the new words to the images. Thus this facilitated memorizing or remembering the words easily. This proves that higher engagement of the students in learning increases the level of confidence in them. The interview conducted also proves that most of the students from Group AV used the language and the vocabulary confidently after viewing the video.

In the study conducted by Strand (2014), the students preferred to use online fun games such as *Quizlet* to learn vocabulary. This is because *Quizlet* increased the behavioral, emotional and cognitive engagement of the students. This is proven by the current study that focuses on an increase in the number of words when the student

engaged more with the video. As such, they tend to think of the visual or audio input from the video as an example in the sentences.

4.3.2.7 Video is a way in vocabulary acquisition

Student AV1, AV2 and AV3 believed that they were able to acquire new words better by using video. After introducing the video for vocabulary acquisition, they became aware that the video enabled them to remember the words better because the words were accompanied by images.

4.3.3 Perception on Audio

Excerpt from Question A3

Student A1: Not always la.. when I am free or after I have finished my school work..mmm I listen to English songs. If I like the song then I want to find out the meaning of word in the song. The meaning I ask around only.

Student A2: Yea. English songs help me to improve my English. This is because I believe I can speak better if I listen to songs.

Student A3: You mean songs yea. I don`t listen. I only listen to Chinese songs (laughing).

In response to what students meant by vocabulary acquisition using audio, Student A1, A2 and A3 believed that hearing many explanations about the target vocabularies made it a slightly difficult to acquire the target words. However, after listening again for the second time, student A1 was able to remember the words by its sound and associating the new words of which the meanings were known.

According to Student A3, even listening for the second time was just enabled them to only guess the meaning. Student A2 agreed that for the word *leprechaun* which was mentioned a few times, it was difficult to guess the meaning.

Student A1, A2 and A3 believed that the audio needed to be played more than twice or more explanation was needed. However Student A1, A2 and A3 preferred to learn vocabulary using audio.

4.3.4 Perception on Audio as Vocabulary Acquisition Tool

4.3.4.1 Audio alone is boring

When the question about what Student A1, A2 and A3 perceived about audio as a tool for English Language vocabulary acquisition, they revealed that it was boring to just listen without seeing pictures. At the same time listening to many words made learning new words difficult because they could not imagine the story. This can be seen clearly from the excerpt question A3 and A4.

Excerpt of Question A4

Student A1: Bored teacher..(laughing). Too many words and no picture. It is a story so I prefer to look at the picture. If news maybe I don't feel bored..mmm…I think so.

Student A2: I cannot concentrate because too many words and I found difficult to imagine the story. It meaning, I can`t figure out the story well.

Student A3: Bored and sleepy la teacher. (laughing)

4.3.4.2 Audio requires more exposure

From the interview with Students A1, A2 and A3, it can be concluded that information overload slows down vocabulary acquisition. They could not focus on the meaning of the target word due to the presence of many words and explanation. They preferred to listen to the audio more than twice to focus more on the vocabulary to acquire the meaning.

This can be proven from the excerpt of Question A6 and Question A7 as shown below:

Excerpt of Question A7

Student A1: Yes. Only on the second time. First time I found too many sentences and info. But when I listen for second time, only some words I can guess the meaning and many word I cannot focus.

Student A2: Yes. Only few words. Too many words and I lost focus.

Student A3: Some words were clue. But I found difficult to guess meaning because cannot follow the word and sentence to see the relation. For second time I was just able to confirm same words that the meaning I guess in the first listening.

Excerpt of Question A6

Student A1: I was able to recognize the words on second time. But teacher…..i have to concentrate more. And was difficult.

Student A2: For second time I can guess the meaning. For example the word le..le..leprechaun was mentioned many times. this helped to guess the meaning better.

Student A3: I think I felt better when listening for second time. Because aaa…I can guess the meaning and can know the sound of the word better than listening for the first time

Much information input at once may hinder the incidental vocabulary acquisition. This is proven by Mayer (2001) which states that too many components of verbal reduce the ability to retain vocabulary. This study further supports Meyer`s study (2001). In this study, the audio group experienced difficulties in word acquisition because of abundance of word input that hindered the learners` from guessing the meaning of the word.

This is because the students found it difficult to process the information. This affects the working memory of the learners. However, this problem arises when the load exceeds the capacity of the person processing it.

4.3.4.3 Audio failed to facilitate in guessing the word-meaning accurately

Student A1, A2 and A3 agreed and believed that the audio alone is not enough for them to guess the meaning of a word accurately. As such, they were not confident enough to use the words in their conversation. This is shown from the excerpt of Question 8.

Excerpt of Question 8

Student A1: Not really. I am not sure of the meaning of the words.

Student A2: I was guessing the meaning. so.. not sure of the meaning and not confident enough.

Student A3: Not yet feeling confident to use the word. I need to listen more and few times.

4.3.5 Comparison of Perception Between Group AV and Group A

Student AV1, AV2 and AV3 believed that they were able to acquire new words better by using video.

They became aware that they were able to acquire new words better using video. They became aware that the video enabled them to remember the words better because the words were accompanied by images. Therefore, they realized that video is a way to acquire vocabulary easily because it creates an exciting mood while watching.

Student AV1 and AV2 agreed that memorizing new words was the most difficult task to do. After watching the video, the students` confidence level to use new words became higher.

They started to speak about the content language immediately after watching the video. Therefore, the video enabled them to relate the new words to the images, so this facilitated them to memorize or remember the words easily.

Student A1, A2 and A3 believed that listening to much explanations about the target vocabulary made it a bit difficult to acquire the target words. However, after listening for the second time, Student A1 was able to remember the words by their sound and able to associate the new words they already knew. According to Student A3, even listening for the second time did not help him guess the meaning correctly. Student A2 agreed that although the word leprechaun, was mentioned a few times, it was difficult to guess its meaning of it. Student A1, A2 and A3 believed that the audio needed to be played more than twice and much explanation was needed. However, Student A1, A2 and A3 preferred to learn vocabulary using video.

4.4 Fieldnotes

To further support the answer for research question 2, these fieldnotes were used.

Table 4.5: Fieldnotes of video and audio environment

Fieldnotes	Excerpts
Session 1 : Group AV : video They laughed loudly to see the animation figure. They did not discuss or talk throughout the video session.	**Excerpt of Question AV4** *Student AV2: Excited. Because can relax a while. After watching aaa..i feel want to watch more maybe it was funny. I like watching cartoon from young. After that I talk about the video to my parents while taking dinner. I think maybe Paddington was preparing dinner in the scene (laughing).* *Student AV3: Happy and relax. We were talking about the scene of amazing mystic stone in second scene.*
Session II : Group V: Audio Some students rested their heads on the desk. Some even spoke one or two words to their friend. Some students looked at their friends' movements.	**Excerpt of Question A4.** *Student A1: Bored teacher..(laughing). Too many words and no picture. It is a story so I prefer to look at the picture. If news maybe I don't feel bored..mmm…I think so.* *Student A2: I cannot concentrate because too many words and I found difficult to imagine the story. It meaning, I can`t figure out the story well.* *Student A3: Bored and sleepy la teacher. (laughing)*

During Session 1, the students were motivated and excited to view the content of the video. This can be seen from the fieldnote stating that the students laughed loudly. When the students were interviewed they claimed that they were excited to see the cartoon character. They did not discuss or talk throughout the video session but during the audio session the students talked to their friends. During session II some students rested their heads on the desk. When asked for the reason for this behavior in the interview, they admitted that they were bored by just listening without seeing any pictures. This further supports the view that the students felt the video is more exciting, motivating than audio only.

From the interview with the six students of the audio-visual group and audio group, it can be concluded that, there are factors that affect the students` perceptions of their learning of vocabulary using video or audio. These factors are:

a) Positive emotions

The emotional state of a learner plays an important role in vocabulary acquisition. According Rahimpour (2013), positive emotion enhances motivational aspect. Motivation aspects promote intellectual function that facilitates vocabulary acquisition. This is supported by the following excerpts based on Question AV4:

Student AV1: Before start watching I felt excited. But after watching I felt more brave….aaa….. yea more confident. My class friends talk about the video and we use the words in the video.

Student AV2: Excited. Because can relax a while. After watching aaa..i feel want to watch more maybe it was funny. I like watching cartoon from young. After that I talk about the video to my parents while taking dinner. I think maybe Paddington was preparing dinner in the scene (laughing).

Student AV3: Happy and relax. We were talking about the scene of amazing mystic stone in second scene.

The words such as excited, confident, relax, funny and happy show the emotional state of the students. Therefore it can be concluded that positive emotion is an important aspect in vocabulary acquisition.

b) Noticing

Ellis (1997) and Schimdt (1990) stated that vocabulary acquisition takes place when learners notice the elements of the language. In this study, 'noticing' facilitates long term memory because the students` attention and awareness increased. This can be shown in excerpt of Question AV7. The students claimed that noticing of words increased when the video was played for the second time. This shows that noticing is important in vocabulary acquisition.

Excerpt of Question AV7

Student AV1: I can focus on new words better in second view. So I can know the meaning.

Student AV2: In second time. Can`t understand the content better. The any new words we can guess the meaning by referring to the sentence before and after or the overall story.

Student AV3: The first time I see the cartoon I try to understand the story as a whole. And then for second time I tried to catch the new words and think of the possible meaning in the video.

c) Cognitive load

Receiving too much input at once may hinder learners the incidental vocabulary acquisition. This is also a found in this study. According to Mayer (2001) too many verbal components reduce the ability to retain vocabulary. This is proven by the audio group who experienced difficulties in word acquisition because of many word input. Too much information input is known as cognitive load and this leads to difficulty in processing the information.

This can be seen in the excerpt based on Question A7:

Excerpt based on Question A7

Student A1: Yes. Only on the second time. First time I found too many sentences and info. But when I listen for second time, only some words I can guess the meaning and many word I cannot focus.

Student A2: Yes. Only few words too many words and I lost focus.

Student A3: Some words were clue. But I found difficult to guess meaning because cannot follow the word and sentence to see the relation. For second time I was just able to confirm same words that the meaning I guess in the first listening.

d) Engagement

The video encouraged higher student engagement in vocabulary acquisition. This is because they were able to associate the words with images in the video.

In the study conducted by Strand (2014), the students preferred to use online fun games such as *Quizlet* to learn vocabulary because *Quizlet* increased the behavioral, emotional and cognitive engagement. It can be concluded that engagement influences vocabulary acquisition.

4.5 Conclusion

The findings indicate that there are increment of scores for the audio-visual group AV and audio group A of the VKS test. This shows that exposure to video enabled learners to acquire vocabulary knowledge from category I (unknown) to category V (known) in VKS test. The mean and standard deviation calculated provides information on the average scores of the students and the differences of each data from the mean. The qualitative data further supports the quantitative data on students' perceptions. Based on the interview transcripts, the students` perception of vocabulary acquisition on audio and video were tabulated (see Table 4.6).

Table 4.6: Students` perception on video and audio

Students` perception	
Video	**Audio**
1. Video is exciting and relaxing 2. Video enables visual and word association 3. Video enables guessing the meaning effectively 4. Video facilitates attention and awareness of new word 5. Video created confidence in communication	1.Audio alone is boring 2.Audio required more exposure 3. Audio did not facilitate in guessing the word-meaning accurately

CHAPTER 5: CONCLUSION AND PEDAGOGICAL IMPLICATION

5.1 Introduction

This study was conducted to explore vocabulary acquisition among students by using multimedia particularly video. This study supports the previous studies such as, Ahn (2014), Nazri (2007), Rahimpour (2013) and Strand (2014). This study also proves that multimedia promote Language Learning. The students` perception on video in vocabulary acquisition was also investigated. The study attempted to answer the following research questions:

1. How do the use of video and audio facilitate students` performance on vocabulary acquisition?

2. What are the students` perceptions of their learning of vocabulary using video and audio?

This chapter presents the conclusion and discusses the pedagogical implications resulting from the study.

5.2 Performance and Perception of Vocabulary Learning using Video and Audio

Extensive reading contributes to vocabulary growth in L1 (Zulkifli, 2007). This is proven by the fact that L1 speakers increased their vocabulary size from 5000 words to 2000 words. However, results from vocabulary acquisition by reading for Second Language Acquisition did not show any success. According to Zulkifli (2007) extensive reading did not contribute to vocabulary acquisition in Second Language Acquisition especially for those learners of low proficiency.

Contextual guessing which has been used as one of the methods for vocabulary acquisition failed to show positive results because the few number of words gained from reading contributes to the difficulty in guessing for second language learners.

One aspect of this Dual Coding Theory is that whether or not the video is better represented with audio only or audio and subtitles. Prior to this present study, there have been no studies investigating vocabulary acquisition using audio and video. Animated images that have been investigated in other studies have been found to be more effective in vocabulary acquisition. The present study investigated the use of video by adopting a British Animated Series with and without visual on vocabulary acquisition and their perception for vocabulary acquisition using Dual Coding Modes. The 20 subjects were divided into two homogenous groups of average level of proficiency from a school in Port Dickson. One group viewed the video with target words. The other group was administered with the audio only. Both groups took a pre-test prior to treatment. They took a post-test twice, one immediately after the treatment and the other one week after the treatment.

In the immediate post-test, the results from the VKS test score and fill-in- the blank test showed an improvement of 30% and 9 % respectively for Group AV. Group A showed a 29% improvement for the VKS test. Although both showed approximate levels of improvement, the retention for video increased and was much higher as compared to the audio. The retention for the video in VKS test had the mean of 88.9 and only 84.2 for audio. This proves that Group AV was able to remember and recall the words better than Group A. This could be because the dual mode presentation of a target word has given a positive outcome where it helped the learners to send the incidentally acquired words to working memory before it becomes receptive language knowledge.

The results justify the claim that the image with audio (video) was more effective than audio only in enhancing word retention. Results from the interview to investigate the students` perception on vocabulary acquisition using video and audio showed that they preferred video to audio.

Further analyses of their interview transcript showed that their perception on choice of video or audio very much depends on a number of factors. These factors are emotions, noticing, cognitive load, engagement and association of word meaning. These factors are also proven to enhance vocabulary acquisition. The results from the interview justify the claim that the students` perception is also important in vocabulary acquisition as suggested in other studies.

5.3 Pedagogical Implication

Pedagogically, the present study provides several implications and recommendations. In the present situation, the use of technology in language teaching and learning is very much encouraged. Many positive results from multimedia research in the aspect of language acquisition made the teacher as the language practitioner apply them in the conventional classroom teaching and learning. On a broader scale, the findings suggest that introducing video has the potential to further enhance language learning, especially vocabulary. Therefore, this provides empirical grounds for incorporating video in CALL environment.

In addition, this study also provides factors that influence the students` perception on language learning and how the video fulfills all the needs to enhance word retention. The technological development in education globally would encourage introducing video as an easy learning tool. Video can be used to improve memory retention when combined with target words.

Therefore, teachers can use videos of animated series or other aspects to draw positive emotion of the learners to maximize learning. When teaching vocabulary, the teacher can choose to teach the words in settings or situations which will help them find the video.

When the students are presented the words with and the situation where the word is being used in the form of a video, then they will use them in the same situation as they learned from the video. This will facilitate vocabulary acquisition and retention at a faster rate.

This study provides a practical way to vocabulary acquisition to meet the students' language learning needs in class or out of the class, and to achieve the goal of multimedia language education – learning in a concrete and meaningful context, with confidence and for the ultimate aim of comprehension.

5.4 Limitation and Recommendation

There are several suggestions on improving the present study. The first is with regards to the number of subjects. In the present study, two homogenous groups with 10 subjects each were used. Using a larger sample size would be more representative of the population.

The second suggestion involves the selection of target words. In the present study, target words were the words that can be represented both by visual and also audio explanations. For example the word *invisible* was represented by the image of a blank paper and sentence in the audio stating the pages are blank. From this study, it can be stated that video can help in learning of abstract words. Future research can be conducted focusing on abstract words acquisition using video.

The third suggestion is regarding data collection design. In the present study, data collection was conducted only once and it took about 60 minutes. The repeated data collection reflected the real situation but this will affect the results as the students will be familiar with the study. As such, future studies should attempt to conduct multiple experiments to lend further validity to the results.

The last suggestion is about the other factors that may influence the results. The present study did not examine other factors such as age, gender and learning style. It was proven that these factors may affect second language acquisition. Further studies should make an attempt to include these elements.

5.5 Conclusion

From this study, it can be concluded that, multimedia environment contributes and enhances vocabulary acquisition (Feinstein, 2011; Sydorenko, 2010)

Researchers have agreed that some form of intervention such as using video can promote incidental vocabulary acquisition. Video is one of the best ways for incidental vocabulary acquisition as it promotes higher vocabulary retention. Video enables incidental vocabulary learning through visual and sound, coding a word into a dual mode (Paivio, 1990).

From this study, it can be concluded that the words presented in dual modes, visual and audio were remembered better than words presented in single mode, either textual or visual or audio alone. This finding from this study, further supports the Dual Coding Theory (Paivio, 1990).

Figures, like tables are printed within the body of the text at the centre of the frame and labelled according to the chapter in which they appear. Thus, for example, figures in Chapter 3 are numbered sequentially: Figure 3.1, Figure 3.2.

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