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THE IMPACT OF CONTEXT ON EFL LEARNERS' VOCABULARY RETENTION

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Abstract:
Vocabulary is believed to be stored in memory through phonological and semantic routes (Papagno, Valentine & Baddeley, 1991). As such, learners can encode words by repetition or by inferring their meaning in a context. However, the effectiveness of the two techniques for learning vocabulary, namely rote rehearsal and context-based strategy, in acquiring foreign language vocabulary has been controversial and hence has encouraged more empirical evidence. This study was conducted to investigate which of these two techniques had the greater impact on students' vocabulary retention. The results revealed that the vocabulary retention of learners in the context-based strategy outperformed those in the rote group at both test intervals. Although the differences between the two groups in the delayed test failed to reach significance, their outstanding results in the immediate test were much more striking. The findings, therefore, suggested that context was more favorable for achieving word meanings than rote rehearsal in general.

Keywords: the impact of context, on EFL learners' vocabulary, retention

1. Introduction

Vocabulary is commonly agreed upon by both first and second-language researchers to play a central role in language learning (Deccarico, 2001) and is of great significance to language learners (Maley, 1986). No matter what it can be viewed as-a freestanding item of language that has meaning (McCarthy, 1990); words in all their aspects, complex and compound words as well as meaningful units of language (Jackson & Amvela, 2000); or the total number of words which make up a language and a range of words known to or used by a person (Hornby et al., 1984; Nany, 1994; Sesnan, 2001); or more simply, "*the words taught in the foreign language*" (Ur, 1996), its effectiveness in leading students to succeed in listening, speaking, reading, and writing is no doubt very clear. As Krashen and Terrell (2000) stated, learners must be able to produce lexical items to convey their meaning if they want to express ideas or ask for information. Without vocabulary, it is

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hard to communicate meaningfully (McCarthy, 1990) because words are the tool that help learners express feelings, emotions and ideas to others as well as explore the world around them (Siriwan, 2007). A person cannot express the intended meaning if there are no words that label objects, actions, and concepts (Kitajima, 2001). Moreover, Allen (1983) and Smith (1998) stress that communication could also break down if there is a lack of vocabulary or if the words chosen are wrong. Therefore, according to McCarthy (2001, cited in Fan, 2003), vocabulary forms the biggest part of the meaning of the language and is the biggest problem for most learners.

To speed up the process through which the acquisition of a foreign language takes place, Oxford (1994) put forward the development and use of strategies that she believed to include not only what learners use, but also others that can be taught for effective usage during the learning process. In fact, it has been proven that good learners are found to be more aware and make better use of the lexical learning strategies trained (Ahmed, 1989; Sannoui, 1992, 1995; Kojic-Sabo & Lightbrown, 1999).

Therefore, numerous approaches, as well as techniques, have been discovered and put into use to help people commit vocabulary to memory. What is more, their presentation and corresponding effectiveness in retention have also been explored in order to seek one that is considered more valuable in a specific context (Meara, 1980).

Based on the fact that memory can be strongly influenced by either a phonological route or a semantic one (Papagno, Valentine & Baddeley, 1991), over decades, various researchers have conducted a lot of studies to investigate the relative practical efficiency of the instructional methods involving these two directions (Bower & Winzenz, 1970; Hulstijn, 1992; Shizuka, 1992; Khuwaileh, 1995; Prince, 1996; Qian, 1996; Laufer & Shmueli, 1997; Bui, 2000; Tim, 2008; Medina, 2009). Nevertheless, most such studies have come up with mixed results, and therefore, the superiority of one over the other in terms of word retention has remained unsolved to date. As such, more research is required to provide teachers as well as learners with insights into methods suitable to their own language teaching and learning.

1.1 Practical background

In the context of Vietnam, English is a compulsory subject at most high schools and is required for the entrance exams to universities as well as colleges. Apart from the class hours, students do not have many chances to practice and extend their vocabulary. As a result, learning vocabulary is obviously a great difficulty for them.

Many students find it difficult to recall the words they have learned. Thus, seeking an effective method to retain words longer in memory is desirable for not only teachers but also students in acquiring the language.

What is more, when considering the strategies employed in the process of language teaching and learning in the context of Vietnam, Duong & Nguyen (2003) found that 85% of teachers and 96% of students at Hue University still used rote conditions in dealing with vocabulary. However, the effectiveness of this preferable method over the inferred-meaning strategy has not been proven consistent in many previous studies, especially in Vietnam, where very few experiments comparing directly these two

techniques have been found. As such, the lack of such research done in Vietnamese schools and universities and the controversies around the relative practical effectiveness of those instructional methods, namely rote rehearsal and context-based strategy on word retention, offered me an excellent reason for this study.

1.2 Research aims and hypothesis

Earlier studies have revealed the contradictory value of rote rehearsal and inferred meaning from context strategy in terms of vocabulary retention. Therefore, this current research was conducted to obtain a better understanding of the effects of phonological rehearsal versus semantic coding on the vocabulary acquisition of the target language through the comparison of these two methods, namely rote rehearsal and context-based strategy, in order to find out the answer to the question: "Does using context-based strategy have a positive impact on EFL learners' retention of vocabulary?" It was hypothesized that using a context-based strategy would facilitate both short-term and long-term vocabulary retention.

1.3 Significance of the research

This research is believed to be important and practical for both teachers and learners in providing a thorough insight into the structure and nature of human memory and some techniques considered to be valuable to enhance remembrance in language learning. Moreover, it is also hoped to highlight the instructional needs by exploring the retention outcomes of words learned by two different methods, called rote rehearsal and context-based strategy. In addition, the findings may be useful for teachers and learners in considering a suitable teaching and learning condition in their own language context in the future.

1.4 Definitions of key terms

Some key terms used throughout the present investigation were defined and explained as follows:

1. Vocabulary learning strategy: a technique that helps commit vocabulary to memory (Gu & Johnson, 1996). It can be claimed to include some learners' use and others that can be taught to employ effectively during the learning process (Oxford, 1994). To the extent of this study, there were no differences between the terms "strategy," "method," or "condition."
2. Rote rehearsal: writing, saying, or doing something over and over (Oxford, 1994). According to the Cambridge International Dictionary of English (1995), learning something *by rote* or *rote learning* means learning something in order to repeat it from memory rather than learning in order to understand it. In this research, rote rehearsal was used interchangeably with *(bilingual) word lists* or *meaning-given word lists.*

3. Context-based strategy: a technique that helps to infer or guess the meaning from the context (Gu, 2003). It can involve the presentation of sentences or paragraphs illustrating how the word is used (McDaniel et al., 1987).

1.5 The research organization

This research consists of five chapters:

Chapter 1 introduces the theoretical background and an overview of the research is presented.

Chapter 2 discusses the literature and studies relating to the research.

Chapter 3 describes the research methodology including research questions, research design, participants, materials, research instruments, and the procedure of the study.

Chapter 4 reports the results and the findings of the research.

Chapter 5 discusses the findings in relation to the research questions and to the research of previous studies, with a specific focus on guessing from context, bilingual word lists, and vocabulary retention. The conclusion, limitations of the study, the implications of the study, and suggestions for further research are also presented in this chapter.

2. Literature review

This chapter introduces an overview of memory, including the definitions, some models of memory, and reasons countable for forgetting to occur. Several memorization techniques are then discussed. Empirical studies of the impacts of rote learning versus context strategy on learners' vocabulary retention are also presented.

2.1 Memory

So far, a complete understanding of human memory has not been yielded by many scientists. Hence, many of the ideas and theories about it are still quite controversial. This field of memory and cognition has attracted the interest of many applied psychologists to answer the questions: What, in fact, is memory? How human memory can at the same time be so efficient and yet so inadequate? Numerous experiments have been conducted to study this important characteristic of human beings.

2.1.1 Definition

Different scientists and researchers view memory differently. However, in general, memory is defined as the ability to recover past events or knowledge, or the ability to keep things in mind and recall them at will. Moreover, it is also thought to be a cognitive thinking process of acquisition, storage, retention, and recall of information (Magner, 2008, cited in Dang, 2009).

In reality, the fact that people are quickly and effortlessly able to access particular information among the vast amounts of information stored in their memory systems implies that the knowledge kept must be highly organized to allow us to retrieve the

appropriate information for a given situation. This organization is capable of classifying, storing, and retrieving information (Baddeley, 1982), and therefore, it can be inferred that the ways information is encoded into memory are crucial in determining the time for its retention and retrieval in the future.

2.1.2 Models of memory

First, appearing as the oldest and simplest theory, memory was suggested to comprise three separate but interacting systems that are used to gather, store, maintain, and retrieve information: sensory, short-term, and long-term memories. Atkinson and Shiffrin (1968) stated that sensory memory (or very short-term Attentive memory(AM) acquires and holds incoming information for a few seconds; short-term memory (STM) saves information for approximately 30 seconds, unless an effort is made to keep it longer; and long-term memory (LTM) maintains information for a few minutes to decades.

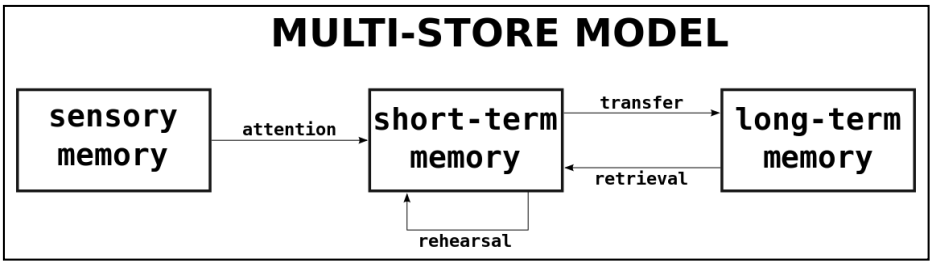

Figure 1: The diagram of Atkinson and Shiffrin's Model (1968)

Being considered an important first step in the memory process and a part of the perceptual system, sensory memory visually and acoustically receives various kinds of information from the environment and stores it for a very brief time until it is lost because no attention is made to analyze and encode it as a meaningful pattern (Bernstein, D. A. & Nash P. W, 2008). Therefore, it can be inferred that sensory memory not only acts as a holding tank from which items are selected for encoding and storage in STM, but also as a filter keeping out unimportant bits of information (Moore, 2010)

Like sensory buffer, STM, which is referred to as a holding area for experiences to be transferred to long-term memory, can also last about 30 seconds. Originally, it was believed to rely mostly on an acoustic code for storing information (Condrad and Hull, 1964; Baddeley, 1996). For example, in research on the retention of telephone codes, Condrad and Hull indicated that the similarity of sound (e.g. P, D, V, C, T) produced more recall errors than that of semantic sequences (e.g. K, Y, Z, W, R) and thus, concluded that immediate memory tends to depend on some type of speech-based code. Moreover, seeing STM as working memory, Baddeley (1990) put a strong emphasis on the crucial role of the phonological loop, a subsidiary slave system of the controlling central executive system, in the manipulation of speech-based information to acquire and retain memory. However, according to Schulman (1970), the encoding of information in STM is much more elaborate and varied than that in the sensory registers. He noted that visual and semantic information were equally coded in STM. In his research, a probe item which

might be either a homonym, a synonym, or identical with the 10 words on each trial list (presented at a rate of either 350, 700, or 1,400 msec per word) was tested. Findings proved that semantic encoding would be retained in STM as well as the phonetic one and implied the importance of the meaningfulness of items in the process of transferring information into LTM.

Furthermore, in line with this view, Craik & Lockhart (1972), in their Levels of Processing model, which acknowledged the distinction between short-term and long-term stores but shifted focus to the "coding" procedure, stated that information could be processed in a number of different ways and the durability or strength of the memory trace was a direct function of the depth of processing involved. In other words, stimuli can be analyzed at different depths of processing (i.e. physical, acoustic, and semantic) and it is the method and depth of processing that affect how an experience is stored in memory, rather than rehearsal. As such, this model proposed better memory upon deeper processing. To confirm this proposal, Walsh, A. and Jenkins, J. (1973) conducted three experiments involving a list of 24 low-frequency English nouns and found that when the orienting task was semantic, that is, it required the subjects to process the meanings of words, recthe all were significantly higher than that of subjects performing non-semantic ones.

Finally, after being transferred from STM to the LTM store, the information is organized and indexed from minutes to decades, and in some cases, its storage is permanent. Anderson (1976) offered deeper insights into memory by suggesting three different components in LTM: episodic memory, referring to the memory of events or activities; semantic memory, involving the meaning of words and objects; and procedural memory, containing stored physical skills and behavioral operations. Among them, the first two memories are considered more prone to distortion and more accountable for linguistic description and communication than the third one.

2.1.3 Forgetting

Forgetting can take place at any stage of the process of memory, from registering a large amount of input information in the sensory memory, getting attention to maintain it in STM, to transferring it into LTM so that it can be retrieved when necessary, for different reasons regardless of how much attempt is made. Various forgetting theories have been formulated in order to find answers to the inability to recall things. Loftus (1974, cited in Cherry, 2009) identified four major reasons that she considered fundamental for explaining why people forget things. These are: Retrieval Failure, Interference, Failure To Store, and Motivated Forgetting. First, according to her, the fact that people cannot retrieve the information held somewhere in the memory can be explained by the decay theory, one of the most compelling presumptions, which believes that memory traces begin to fade or decay with time if there is no retrieval and rehearsal of the information. Studies by John Brown (1958) and the Petersons (1959), known as the Brown-Peterson Paradigm, showed evidence to support this belief. In Brown's experiments, subjects were given a 5-second gap before being asked to recall between 1 and 4 consonants written in black, together with pairs in red that were explicitly not part of the intervening task. It

was found that even when the number of items to be recalled was well within the standard memory span, participants could not remember all of the items if rehearsal was prevented. Moreover, Peterson and Peterson asked participants to observe a number of trigrams and recall them recently after counting down from 50. At the end of the study, they recognized that a long count back caused the recall to become poor. Therefore, it can be inferred that the passage of time is the culprit that causes forgetting. However, some theorists argue that it is not time but rather what one does with memory that determines the degree of forgetting. Based on Bahrick's finding that students who completed a Spanish course forgot a substantial amount when being retested 3 years later, Gordon (*2005)* not only admitted the time decay power but also suggested a different result if those students could live in Spain or deal with Spanish magazines on a consistent basis.

Similar to the Decay Theory in the way that old memories are lost over time, interference appears as an explanation for the occurrence of forgetting caused by the replacement or competition with other information called retroaction and proaction, respectively. Thus, this interference is considered an active process of learning new information, which directly impedes the recollection of previously stored data and, as a result, makes items more difficult or impossible to remember. In fact, this theory has received reasonable support from studies. As cited in Mondon (1998), Jenkins & Dallenbach (1924) found that when giving participants ten nonsense syllables to remember, those who slept after looking at the syllables had better recall results than those carrying on their day as normal. In addition, she also offered the outcomes of Gunter et al. (1980) and Chandler (1989) that people would be distorted in their recall after watching a number of news bulletins and studying similar subjects at the same time, respectively, as proof of interference.

Third, Loftus assumed that the reason people forget is because of encoding failures that prevent information from entering long-term memory. Therefore, when Nickerson & Adams (1979, cited in Cherry, 2009) asked participants to select the correct U.S. penny out of a group of incorrect pennies by drawing it from unaided recall and discovered their poor performance on all tasks, it can be inferred in *Encoding Failure Theory* that people cannot remember what was never encoded in the first place. Therefore, an amount of sufficient initial encoding in the acquisition phase should be required to avoid this failure. Finally, in her viewpoint, there existed the fact that people may tend to forget things they do not wish to remember or for a certain reason (e.g., traumatic or disturbing events or experiences). In other words, a lack of motivation will lead to forgetting. Therefore, in the language teaching and learning environment, it can be inferred that attitude appears to be the main point of *Motivated Forgetting Theory*. If learners are interested and want to study something, they will be able to gain and remember it more effectively.

In sum, memory is no doubt a very complex topic and requires a lot of effort from researchers, teachers, and learners to have a more thorough understanding of its nature and characteristics in order to reduce its forgetability as well as enhance its retention capacity. Therefore, besides a desire to engrave what they learn, learners also need suitable approaches, strategies, or techniques in order to retain vocabulary longer.

2.2 Memorization techniques

It is commonly agreed that knowing some basic concepts and processes of memory is particularly necessary for terms of vocabulary language teaching and learning. However, putting this knowledge into practice to improve memory is more essential. Thus, based on the ways information works inside human memory as well as its natural aspect-forgetting, various researchers have given prominence to various methods and techniques that involve active learning. In the extent of this study, some prominent ones will be taken into consideration.

To begin with, *repetition* (or *recitation or rote memorizing)* appears to be the simplest traditional practice that has received a lot of pros and cons so far. Writing down, saying it out loud, or simply thinking about what to remember is some of its forms. Among them, vocal recitation is usually thought to be the most valuable technique in building a quick "start-up" vocabulary, creating a pleasant atmosphere for learners (Carter, 1987; Cook, 1994), and remembering phrasal verbs (Kovecses & Szabo, 1995), and importantly, in transferring information from STM into LTM (Lawson & Hogben, 1996; Qian, 1996; Prince, 1996), despite a lot of doubts about the values of this technique. Systematic instruction plus contextualized reading, namely, *guessing* or *inferring from context,* has been proven very effective. Studies have found "*positive evidence in support of explicit vocabulary instruction in an ESL setting*" (Zimmerman, 1994; Paribakht & Wesche, 1997) and suggest that direct vocabulary instruction accompanied by a moderate amount of reading leads to significant gains in vocabulary knowledge (Coady, 1997). Moreover, as stated by Atkinson and Raugh (1975), Craik and Tulving (1975), Pressley and Levin (1978), Pressley et al. (1980), Cohen and Aphek (1981), O'Malley et al. (1985), inferring meaning from context is one of the techniques involving deep semantic processing that assure the ability to lead to better retention of memory.

The effectiveness of *semantic elaboration* on vocabulary teaching and learning has also been studied, and researchers find it useful for long-term retention (e.g., Hague, 1987; Machalias, 1991). Four techniques for semantic elaboration have been summarized in Sökmen (1997): semantic feature analysis, semantic mapping, ordering, and pictorial schemata. In fact, analyzing the construction of an item, thinking about how items relate to each other and converting them into actual pictures, and diagrams on the board or in your mind can help to develop both articulatory and visual memory in the process of learning.

Last but not least, the *keyword method,* which is based on the use of visual and verbal mental imagery to relate a word to be memorized with some previously learned knowledge, is a promising and powerful principle. According to Hulstijn (1997), this method facilitates the linking of the form of a word with its meaning and thus has a facilitating role in vocabulary learning (Desrochers et al., 1991; Levin et al., 1992; Ellis & Beaton, 1993; Hogben & Lawson, 1994). However, some researchers argue that the keyword method has attracted little attention because it can be used effectively with only words referring to objects that can be perceived visually (Hulstijn, 1997).

It can be seen that all the above principles do contribute to the effectiveness of direct, i.e., intentional vocabulary teaching and learning. Nevertheless, in particular

Vietnamese settings, it can be recognized that rote rehearsal and context conditioning still occur as common techniques for teaching and learning vocabulary. As a result, a closer look into the retention of vocabulary through related studies is worth conducting, especially in the Vietnamese educational context.

2.3 Empirical studies on vocabulary retention of rote learning versus context strategy

Being a very traditional method of vocabulary acquisition, rote learning is widely admitted to be the simplest and fastest way to build up vocabulary (Carter, 1987). What is more, it is also claimed to create a pleasant atmosphere for learners, as Cook (1994) believed, "*repetition and learning by heart are two of the most valuable, pleasurable, and efficient uses of language learning activities*". Therefore, not surprisingly, rote conditions prove to be in favor of learners, especially those of low proficiency (O'Malley & Chamot, 1990; Dương, O. & Nguyen, H., 2003). Furthermore, in terms of word retention, many studies have also reported its positive performance over other techniques, such as the recall method (Thornlike, 1914); mnemonic method (Wang and Thomas, 1992); gist strategy (Noice, 1993); keyword method (Van Hell & Mahn, 1997) or sentence-making practice (Mehrpour, 2008). Nevertheless, despite evidence provided by various researchers, rote memorization, which focuses mainly on acoustic encoding, is still commonly considered as the shallowest process of maintaining vocabulary that leads to retention failure in comparison with other deeper methods (Atkinson & Raugh, 1975; Craik and Tulving, 1975; Pressley and Levin, 1978; Pressley et al., 1980; Cohen and Aphek, 1981; O'Malley et al., 1985).

For this reason, semantic-context methods, which involve the presentation of sentences or paragraphs illustrating how the word is used, are claimed to play an important role in vocabulary learning. According to McDaniel et al. (1987), these meaningful semantic contexts could afford an elaborative encoding of the words' meanings that promotes definition memory. Echoing with this view, many cognitive psychologists (Craik & Tulving, 1975; Schouten-van Parreren, 1989; Brown & Perry, 1991; Hulstijn, 2001) claimed that activities requiring a deeper, more involved manipulation of information is more conducive to learning and retention of vocabulary meanings. Therefore, it can be concluded that words are best learned when the meaning is inferred from the context, which has a clear positive effect on retention. Thus, there exists a considerable volume of research studies devoted to the context of not only L1 (Honeyfield, 1977; Pressley, Mc Daniel & Dulaney, 1987; Sterberg, 1987; Nation, 1990), L2 (Martin, 1976; Channell, 1980), but also of foreign languages (e.g., Grinstead, 1915; Atkinson & Raugh, 1975; Delaney, 1978; Cohen & Aphek, 1981).

Although most of the studies reviewed provide strong evidence for the important role of acoustic and semantic memories in the learning of words, the superiority of any one of them is inconsistent because the direct comparison of the two methods has led to different results. Some found no significant difference between the meaning-given and meaning-inferred glosses, while others asserted the outperformance of context or rote rehearsal in terms of vocabulary retention.

First, Bower & Winzenz (1970, cited in Ellis, 1995) confirmed the usefulness of context strategy over rote repetition when asking participants to associate 15 arbitrary word pairs (e.g. horse-cello) under one of four conditions: (1) Repetition concerning with verbal rehearsal, (2) Sentence Reading involving reading and associating each pair of words in a simple sentence, (3) Sentence Generation dealing with making and saying aloud a meaningful sentence relating to the words in each pair, and (4) Imagery referring to visualizing a mental picture or an image in which the two referents were in some kinds of vivid interaction. The mean recall results were strikingly different: Repetition 5.6, Sentence Reading 8.2, Sentence Generation 11.5, and Imagery 13.1, which suggested that repetition was less effective than those deeper processes in the retention of words.

Second, in an experiment series in 1992, Hulstijn measured the retention of the three meaning-to-be-inferred procedures (Multiple Choice, Concise Context, and No-Cue/Control) versus the given-meaning method (Translation/or Synonym) by asking participants to read a 4-page Dutch text containing 12 target unknown or pseudo words to answer 6 comprehension questions. The subjects involved were then tested for their memory in terms of the form and meaning of the targets and the effectiveness of each method. In Experiment I with a population of 65 Turkish adults, the results showed better retention of the Translation group over the other three on the Meaning test, despite a tendency for slightly better performance of the Concise Reading group on the Form one. However, in Experiment II with 98 Dutch learners, Concise Reading enhanced more retention than the Synonym group in either test, although these differences failed to be significant. Besides, in Experiment III, with 45 Dutch learners with 2 cue conditions (Synonym and Multiple Choice) given only, it was recognized that the inferred-meaning method yielded a more considerable retention difference than the meaning-given. More importantly, it can be concluded that of the three experiments, the performance of words was higher in retention if they were learned in context rather than in isolation.

In the same year (1992), Shizuka tested 54 learners who used guessing meaning from context and those who used rote memorization with their L1 translation as their preferred learning strategies in three dimensions: acquiring, storing and ability to cope with the unknown words in a reading. As such, three tests (filling in the blank with target words, guessing the meaning of underlined words, and writing down the word meanings in L1) were given right after the learning phase and 2 weeks afterwards, respectively in order to measure the understanding of meaning- derived ability as well as the retention of the meanings of the targets. The results indicated no significant differences in the comprehension and the short-term retention, clear superiority of the guessing strategy in developing skills for coping with new items, and an advantage for memorization with L1 equivalents for long-term storage of the instructed items.

Furthermore, Khuwaileh (1995) investigated the effect of contextualization on vocabulary at the immediate level of English for academic purposes with 40 Jordanian university students. In the study, two lists were created, each containing 20 new words. The word meanings of list 1 were discussed in Arabic, and the words of list 2 were embedded in a text for silent reading with vocabulary questions. After 14 weeks, the subjects were tested on list 1 and a second text with similar meanings to those in the first

text. The findings revealed that there was a clear advantage to contextualization for comprehension, learning, and/or recall.

However, Prince's results in 1996 were contrary to that finding when comparing the effectiveness of context and translation learning on recalls of newly learned words. He worked with 48 French ESL university students who voluntarily participated in the experiment. Contextual and translation learning were conducted separately and followed by two recall formats (context and translation) 40 minutes after the instruction. The findings found reported a superiority of translation learning in terms of the quantity of words retained compared to context learning. Therefore, it can be inferred that students can perform better when they are given only a list of L2 words and their translations (Folse, 2004).

Simultaneously, in 1996, Qian conducted another study on two groups of Chinese university students, of which one (n = 32) was instructed in guessing from context and the other group (n = 31) with bilingual word lists. Three recall tests were administered immediately, 1 week, and 3 weeks after the instruction. The subjects were asked to provide Chinese equivalents of the 15 words they learned in the study. The outcomes also showed the prominence of bilingual word list learners over those taught by guessing from the context on all the tests given.

In another study, Laufer & Shmueli (1997) examined the relationship between the memorization of new words (short-term and long-term) and teaching techniques involving different modes of vocabulary presentation and different languages of vocabulary glossing, including: (1) words presented in isolation, (2) in "minimal context", e.g. in one meaningful sentence, (3) in text-context, and (4) in an "elaborate" text context, namely, in the original text supplemented by clarifying phrases and sentences. In each mode of presentation, half (10) of the words were translated into learners' L1 and half were explained in English. An additional group of learners served as a control group and were asked to learn the words for a quiz by themselves. All the subjects were tested on the short-term and long-term retention of the words. Retention scores revealed that words glossed in L1 were retained better than those glossed in L2. Moreover, it was found that words presented in lists and sentences were remembered better than those presented in text and elaborate text. The control group received the lowest results. Based on the results of the study, it was concluded that mental elaboration, which is claimed to affect retention, may not necessarily take place when words are encountered in texts. On the other hand, bilingual lists may be conducive to such elaboration.

In still another piece of research carried out by Bui, C. (2000), the effectiveness of the two learning conditions (context versus rote rehearsal) on 32 Vietnamese students who had learned English for 7 years was observed. They were divided into 2 groups; each was required to memorize a set of 15 unknown items in a bilingual list or infer their meanings from 15 sentences. Immediate and one-week delayed tests were run after the learning session. The results showed that there was no significant difference between the two methods in terms of overall correct responses at both test intervals, despite a tendency for better performance in the immediate testing condition.

What is more, Tim, M. T. (2008) conducted a study with thirty-seven 10-year old EFL learners in Hong Kong to compare the guessing from the context with the bilingual word lists method in terms of vocabulary retention, learners' preference and perceived usefulnofards these two methods. In the experiment, 10 target words were taught by guessing from context and another 10 by bilingual word lists. Every 2 weeks after the teaching phases, 2 recall tests were conducted, and the results pointed out that bilingual word list learners were better at word retention. However, the context strategy was considered more useful for vocabulary learning, although most young people still preferred the other.

Echoing with Tim, Medina, J. M. G. (2009) recently reported a superior result of bilingual wordlists versus context strategy in the short-term oemory when conducting two similar studies about the effectiveness of the two methods in two Columbian schools. The same procedures were carried out with each of the couple groups: group 1 was asked to memorize 15-item bilingual word lists, while group 2 was presented with the same set of words in a reading text. Then the subjects were administered two sequential tests: the first one after 1 hour to assess the initial lexical acquisition and the second one a week later to assess the lexical retention. One week after the retention test, the learners were given a new set of 15 words, this time in a text context for group 1, while group 2 was to memorize the word lists. Recall and retention tests were also administered in a similar way. Although the word list was proven better than the context method in recalling, its effectiveness, in the long run, turned out to be the same as that of the other learning conditions.

Although there have been many studies comparing the two strategies, the issue of whether using a context-based strategy yields better vocabulary retention still remains inconclusive and hence, open to question. As a result of this, there exists a strong need for researchers, teachers, and even learners to obtain more empirical data in order to shed light on the vocabulary learning process, which then offers the foundation for effective vocabulary teaching practice.

3. Research methodology

In this chapter, the research question and the hypothesis are first presented. Then the overall design of the study is described. The participants, the materials, the instruments, the procedures, and the analysis of the data are also described.

3.1 Research question

The research question under this investigation was whether context would have more positive effects on learners' retention of vocabulary compared with the rote one. It was hypothesized that using context would better facilitate both short-term and long-term productive vocabulary learning.

3.2 Research design

The study was a between-group design with the variables of learning condition (context versus rote rehearsal) and retention interval (immediate versus 3-week delay) manipulated between participants (see Figure 1).

Experimental (Context) (n = 30)		**Control (Rote) (n = 30)**	
Immediate	Delayed	Immediate	Delayed

Figure 2: Assignment of participants to groups

3.3 Participants

60 students were involved in the study. They were taking a pre-intermediate level course of English as a requirement in their undergraduate program. They were assigned into two groups: experimental and control.

The teacher who is also the researcher taught the two groups.

3.4 Materials

The materials used for the study in both groups of learners were selected from a list of 40 low-frequency words. The full list of words and its selection words are included in Appendix A and Appendix B.

In the study, three vocabulary tests were employed to collect data including:

- Selection vocabulary test,
- Immediate test,
- Delayed test.

3.5 Instruments

3.5.1 Selection vocabulary test

In the selection vocabulary test, all participants were given a list of 40 English words and asked to write down the Vietnamese equivalents of any items they knew. The researcher only chose 15 words, which students in both groups completely did not know the meaning of for the treatment. The following set of 15 unfamiliar words was utilized in the training.

1) spontaneous,
2) deceptive,
3) arrogant,
4) to infuriate,
5) frustration,
6) to humiliate,
7) stunning,
8) fluke,
9) weird,
10) to distract,
11) hilarious,

12) skeptical,
13) introvert,
14) dilapidated,
15) to petrify,

Both context and rote learners learned this same 15-word set. However, while the experimental group was facilitated with 15 English sentences designed for the purpose of giving hints for guessing the meaning of the target words (see Appendix C), the control group learned them through their translation equivalents only (see Appendix D).

Table 3.1: Examples of some of the 15 trained words and their 15 English sentences

Number	English Words	English Sentences
1.	spontaneous	We didn't intend to have that party. It was completely **spontaneous**.
2.	deceptive	He may look honest, but appearances are often **deceptive**.
3.	arrogant	It's **arrogant** to believe that nobody can do anything better than you can.

Table 3.2: Examples of some of the 15 trained words and their translation equivalents

Number	English Words	English Sentences
1.	spontaneous	Tự phát
2.	deceptive	Làm cho nhầm lẫn; Lường gạt
3.	arrogant	Kiêu căng; Tự phụ

3.5.2 Immediate test

The immediate test (see Appendix E) was designed to test learners' short-term memory in both groups straight after the training. There were two parts to the test. The first part contained 15 items with the requirement of writing down the English words next to their Vietnamese equivalents to test the participants' productive ability. The time allotted for this part was 10 minutes. The researcher collected all the answer sheets after the participants had completed the first part.

Table 3.3: Examples from the first part of the immediate test

Write Down the English Equivalents Next to the Following Vietnamese Words	
Tự Phát	
Si Nhục	
Kiêu Căng	

The second part was used to test the students' ability to recognize. There were 15 multiple-choice items in this part. To do this task, students were given 15 English sentences in which the English target word was in bold. These target words were the same as the ones used in the first part of the test. The participants were required to circle one correct answer out of the 3 multiple-choice options with the underlined Vietnamese words or phrases, one of which was the equivalent of the target English word, and the other 2 were either related in meaning or completely wrong Vietnamese words. This part also required 10 minutes to complete.

Table 3.4: Examples from the second part of the immediate test

Choose the Correct Answer:
1. It is a **dilapidated** house. a) Nó là một căn nhà *đổ nát.* b) Nó là một căn nhà *khang trang.* c) Nó là một căn nhà *mới được sửa sang.*
2. The party was **spontaneous** a) Bữa tiệc này đã *được sắp đặt chu đáo.* b) Bữa tiệc này là *tự phát.* c) Bữa tiệc này thật *vui nhộn.*
3. It was a **fluke** a) Nó là một chuyện *xui rủi* b) Nó là một chuyện *may mắn* c) Nó là một chuyện *may rủi*

3.5.3 Delayed test

The delayed test (see Appendix E) was similar to the immediate test in terms of content, task types, time allotted, and number of tasks, but it was administered 3 weeks later to test the participants' long-term memory. To control for the revision of test words during the 3-week period, the vocabulary lists were collected after the learning phase and the participants were not informed in advance that they would be retested to ensure reliability and validity.

3.6 Conduct of the study

3.6.1 The procedure of the study

The time to conduct the study was 6 weeks: the 1st week for the selection vocabulary test, the 2nd one for the treatment and Immediate Test, and the 6th one for the Delayed Test. The procedure of the study was presented in the following summary.

Table 3.5: The procedure of the study

Week 1	Selection Vocabulary Test
Week 2	Treatment - Immediate Test
Week 6	Delayed Test

3.6.2 Implementation of vocabulary teaching

a. Context learners

The logic of the context-based method was explained to the group of context learners. The participants were told that first they would be taught to associate each English word with a context. Then the researcher presented a sample word and explained how the context could be used to understand and memorize the new word. Each participant was then given a study booklet on which the 15 English training words and 15 English sentences were listed. The participants were told to follow along as the experimental pronounced the words aloud and explained their meanings related to the sentences. They were allowed one minute to study each item.

The procedure was as follows:

Researcher: Now you are going to learn how to associate a word with a context. Look at the first word in the list (the teacher read the word aloud): *spontaneous*. (Then the teacher read the sentence) *We didn't intend to have that party. It was completely* ***spontaneous***. The hint was "*we didn't intend*". What does the word *spontaneous* mean?

Participants: (offered the meaning of the word)

Researcher: (gave the meaning of the word) *Spontaneous* means *Tự phát*, (*then read the word aloud again, and the learners were allowed to repeat it only once*)

The participants had 15 minutes to study the whole list of the 15 words after the experimenter had finished explaining the 15 words.

b. Rote learners

A list of 15 English words was given to the participants. The researcher translated the meanings of these 15 words into Vietnamese, for example, *Spontaneous* means *Tự phát*. The participants in these groups were required toto repeatach English word aloud 5 times after the teacher and to copy the English equivalent 5 times in a blank provided beside each word and its translation equivalent. They were also allowed one minute to study each item (see Appendix D for details).

3.7 Scoring systems

3.7.1 Correct production

Two scoring systems, one *strict* and one *lenient* were employed in marking Part A:

- The Strict Scoring System

1 point was given for a correct response and zero for an incorrect response.

- The Lenient Scoring System

1 point was given for a correct response and zero for an incorrect response. However, 0.5 was given for a response which contained one of these errors: *semantically appropriate* such as the participant giving the word "wonderful" instead of "stunning" or "funny" instead of "hilarious"; *close misspelling, for example*, "tunning" instead of "stunning" or "fluk" instead of "fluke".

3.7.2 Correct reception

Only the strict scoring system was used in marking Part B – *Correct Reception*.

3.8 Statistical analysis

To achieve reliability, the immediate and delayed test papers were all marked independently by the researcher as well as by two experienced language educators. Items were scored according to the criteria set out in the scoring systems.

To compare the effects of context versus rote rehearsal on learners' retention of vocabulary, the software Statistics Package for the Social Sciences (SPSS) version 11.5 was used to analyze the data. In order to answer the research questions, the researcher used four analytical tests. First, the scale tests were conducted to check the reliability of the vocabulary tests. Then, the Descriptive Statistics Tests were used to determine the

minimum, the maximum, the mean, and the standard deviation of the scores. Third, the Independent Samples T-Tests were performed to explore the mean differences between the two groups. Fourth, the Paired Samples T-Tests were calculated to compare mean scores within the control group and the experimental group.

4. Research results

This chapter compares the results of the research on the effects of context rehearsal on learners' vocabulary retention between the two groups: control and experimental. Then the comparison of the results of the immediate and delayed tests within each group is also presented. Those results are presented in two parts: Correct Production (Part A) and Correct Reception (Part B).

4.1 Learners' vocabulary retention between the two groups

The same test was used for both immediate and delayed tests to check learners' vocabulary retention in short-term memory and long-term memory. The test was piloted prior to the study. The scale test to verify the reliability of the test was run and the result showed that it was reliable (α =.74).

The scores collected from these tests were subjected to SPSS for data analysis. The results of learners' vocabulary retention on the vocabulary tests will be presented in Table 4.1.

Table 4.1: Descriptive Statistic with the synthetic results of Context and Rote Learning groups

Part	Context		Rote	
	Delayed	Immediate	Immediate	Delayed
Correct production	9.23	1.80	7.80	1.40
Correct production	9.85	2.42	8.38	1.98
Correct reception (strict)	14.50	13.23	14.20	13.13

The results in Table 4.1 show that in both immediate and delayed tests, context learners outperformed the rote ones in both productive and receptive parts for the two scoring systems. In the Correct Production, *on the strict scoring,* the immediate and delayed mean scores of context students are much higher than those of the rote students (M=9.23 vs. M=7.80 and M=1.80 vs. M=1.40). *On the lenient scoring*, the distance between the scores is also considerable (M=9.85 vs. M=8.38 and M=2.42 vs. M=1.98).

In the Correct Reception part, context learners also showed better performance on both short term memory (M=14.57 vs. M=14.20) and long term memory (M=13.23 vs. M=13.13).

Nevertheless, in order to see whether the two groups performed statistically differently with the strict and lenient scoring system, the *Independent Samples T-Test* was calculated. The results obtained from this statistical test are reported in the two test sections - Productive and Receptive in Tables 4.2 and 4.3 below.

A. Productive part

- **The Immediate test**

Table 4.2: Independent Sample T-test on the immediate test

Scoring	Groups	t	df	Mean	Sig. (2-tailed)	MD	SD	SE
Strict	Context	2.12	58	9.23	.04	1.43	2.16	.40
	Rote			7.80			3.01	.55
Lenient	Context	2.12	58	9.85	.04	1.47	2.33	.43
	Rote			8.38			3.00	.55

As can be seen from Table 4.2, for *the strict scoring system*, the mean score of the context group's vocabulary retention on the immediate test (M=9.23, SD=2.16) was higher than the mean score of students' vocabulary retention of the rote group (M=7.80, SD=3.01). Similarly, on the immediate test, context learners were also proven to outperform rote learners with M=9.85, SD=2.33 vs. M=8.38, SD=3.00 in terms of *lenient scoring system*.

The two-tailed probability in the two scoring parts of the data was *p*=.04. Because this significant level is less than .05 (p≤ .05), it was confidently concluded that the average means for the context group were significantly different from those of the rote group. The result, therefore, indicated that students' short term memory of the context group was higher than that of the rote one.

- **The delayed test**

An *Independent Sample T-test* was also conducted to evaluate whether there is a significant difference in long term retention between the participants of the two groups in the delayed test. The results are presented in Table 4.3

Table 4.3: Independent Sample T-test on the delayed test

Scoring	Groups	t	df	Mean	Sig. (2-tailed)	MD	SD	SE
Strict	Context	.81	58	1.80	.42	.40	2.19	.40
	Rote			1.40			1.57	.29
Lenient	Context	.75	58	2.42	.46	.43	2.53	.46
	Rote			1.98			1.90	.35

As can be seen from the table, on the delayed test, the context group (*M*=1.80, *SD*=2.19) did better than the rote group (*M*=1.40, *SD*=1.57) for the *strict scoring system*, and similar pattern can be observed *for the lenient scoring method* when comparing the mean of context learners (M=2.42, SD=2.53) with that of the rote ones (M=1.98, SD=1.90).

However, the contrast between the two groups failed to reach the significance (p=.42 vs. p=.46 > p= .05) for both scores. Because of this reason, it can be stated that on the delayed test, there was not much difference in the retention in the context group and the rote group after 3 weeks. In other words, context and rote learners did not differ much in terms of vocabulary retention in long time memory.

B. Receptive part

In order to see whether the two groups performed statistically differently on the two tests for the Receptive part, the *Independent Samples T-Test* was calculated. The results obtained from this statistical test are reported in Table 4.4 below.

Table 4.4: Independent samples T-test of mean scores for Receptive Part

Tests	Groups	t	df	Mean	Sig. (2-tailed)	MD	SD
Immediate	Context	1.10	58	14.57	.28	1.17	1.17
	Rote			14.20		1.40	1.40
Delayed	Context	.19	58	13.23	.85	1.81	1.81
	Rote			13.13		2.21	2.21

The results from Table 4.4 shows that on average, participants in the context group had greater presentation than the rote learners on both tests (M=14.57, SD=1.17 and M=14.20, SD=1.40 vs. M=13.23, SD=1.81 and M=13.13, SD=2.21).Nevertheless, the differences were not significant with t(58)=1.10, p=.28 and t(58)
=.19, p=.85> p=.05.

In summary, it is confirmed that on the two tests, context learners outperformed rote ones, especially in the Correct Production part of the short-term memory condition. However, the differences were not significant in terms of long-term retention of vocabulary. It means that the two methods of teaching (context vs. rote) could make a considerable distinction, mainly in a short time, not in the long run. What is more, in the Receptive part, no significant difference between the two learner groups was found in the two conditions of the learning phases.

This section has presented the results of examining differences in learners' vocabulary retention between the two groups on both intermediate and delayed tests. The next part will report the results of comparing the vocabulary retention within each group.

4.2 Learners' vocabulary retention within each group

Paired Sample T-tests were conducted on the students' immediate and delayed test scores to evaluate whether students in each group retained more vocabulary in short- term retention or long-term retention. The data collected from both scoring systems was computed, and the results of the analysis were manifested in Table 4.5, and Table 4.6.

4.2.1 The context group

Table 4.5: Paired Sample T-test on the Context group

Parts	Tests	t	df	Mean	MD	Sig. (2-tailed)	SD
Production (Strict)	Immediate	17.37	29	9.23	7.43	.00	2.16
	Delayed			1.80			2.19
Production (Lenient)	Immediate	18.21	29	9.85	7.43	.00	2.33
	Delayed			2.42			2.52
Reception (Strict)	Immediate	6.68	29	14.57	1.33	.00	1.17
	Delayed			13.23			1.81

In the Productive part, the result in Table 4.5 indicates that the mean score for immediate test with *strict scoring system* (M=9.23, SD=2.16) was significantly greater than the mean score of the delayed test (M=1.80, SD=2.19) with p=.00<.05. *For the lenient scoring system,* the mean score of the immediate test (M=9.85, SD=2.33) was also superior to that of the delayed one (M=2.42, SD=2.52). Thethe difference was also significant p=.00<.05. Moreover, in the Receptive session of the immediate test, context learners proved to perform better than rote learners in the delayed one (M=14.57, SD=1.17 vs. M=13.23, SD=1.81). The difference was significant with t (29) =6.68, p=.00<.05. Hence, it can be inferred that students in the context group had better vocabulary retention in terms of short-term memory.

4.2.2 The rote group

Table 4.6: Paired Samples T-test on the Rote group

Parts	Tests	t	df	Mean	MD	Sig. (2-tailed)	SD
Production (Strict)	Immediate	11.59	29	7.80	6.40	.00	3.01
	Delayed			1.40			1.57
Production (Lenient)	Immediate	11.05	29	8.38	6.40	.00	3.00
	Delayed			1.98			1.90
Reception (Strict)	Immediate	3.52	29	14.20	1.07	.00	1.40
	Delayed			13.13			2.21

In the Production part, for *the strict scoring system*, Table 4.6 shows that the mean scores of the immediate test (M = 7.80, SD = 3.01) was much higher than that in the delayed test (M = 1.40, SD = 1.57). This result shows the significant difference in the mean scores between the immediate test and delayed test ($t(29)$ = 11.59, p = .00< 0.05).

Similar pattern can be observed for *the lenient scoring method* on the immediate test (M=8.38, SD=3.00) and delayed test (M=1.98, SD=1.90). The 2-tailed probability ($t(29)$ = 11.05, p=.00< .05) also proves that the difference in the mean scores between the immediate test and delayed test was statistically significant.

Besides, it is considerably indicated that the delayed test had a significant lower mean score (M = 13.13, SD = 2.21) than the immediate test (M = 14.20, SD = 1.40) for the Receptive part with (t (29) = 1.07, p = .00 < .05. This result is similar to the discovery of the correct production presented above.

Through the analysis of the data of the strict and lenient scoring systems, the findings indicated that learners significantly gained more vocabulary retention in the short term learning condition.

In general, the vocabulary retention of learners in the two groups both decreased significantly after a long period of time (three weeks). In other words, it can beconcluded that participants in the context rehearsal could retain vocabulary in short term memory better than those in the rote condition. However, it is not the case for the long term retention in which the differences between the two groups were not significant.

4.3 Error type analysis

Errors were classified into two categories: semantically appropriate, and misspelling. Table 4.7 shows the percentage of errors in each category for students assigned to rote rehearsal versus the semantic context group in both the immediate and delayed testing conditions. The results for each category are presented in Table 4.7 below. Percentages do not add to 100% because completely incorrect words and correct words are not included.

Table 4.7: Percentage of errors in each category for the Context versus the Rote Learners on immediate and delayed tests

Error type	Context Learners		Rote Learners	
	Immediate	Delayed	Immediate	Delayed
Semantically appropriate	.00	0.22	.00	0.89
Misspelling	10.44	6.22	9.56	4.22

4.3.1 Semantic errors

As can be seen from Table 4.7, semantically appropriate substitutions were distributed differently as a function of learner condition and retention interval. It appears that semantically appropriate substitutions did not happen to the context and rote rehearsal learners in the immediate testing conditions. However, they took place in the delayed testing conditions of the group of context learners and appeared about 4 times more than that of the percentage in the rote learning group.

4.3.2 Misspelling

The mean in Table 4.7 indicated that the students assigned to the context rehearsal group made more misspelling errors than those assigned to the rote learningcondition at the two testing times (immediate vs. delayed). However, there was a significant decrease in the number of these errors in the delayed test**.**

5. Discussion, Conclusions, Limitations and Further Research

This chapter includes (1) discussion of the findings of the thesis, (2) implications for English teaching and learning, (3) the limitations of the study, and (4) suggestions for further research in this area of the study.

5.1 Summary and interpretation of main findings

This study was conducted to examine the effects of a context-based strategy on the vocabulary retention of students who are non-majors in English. The hypothesis of the study was that context would facilitate both short-term and long-term productive vocabulary learning.

The results reported did raise some points for discussion. First of all, it can be noticed that, in general, context yielded better retention of words than rote rehearsal in terms of overall correct responses on either of the tests (immediate or delayed). This finding, hence, was in line with previous studies (Atkinson and Raugh, 1975; Craik and

Tulving, 1975; Pressley and Levin, 1978; Pressley et al., 1980; Cohen and Aphek, 1981; O'Malley et al., 1985) that showed techniques involving deeper semantic processing of target words were more effective than memorization involving only shallow processing like oral rote-repetition. Moreover, it was similar to the claim of McCarthy (1990) that a word learned in a meaningful context is best assimilated and remembered. Furthermore, in the study in 1998, Grace also suggested that inferring word meanings produces greater retention than sentence-level translations because it promotes deeper processing.

However, contrary to expectations, it was surprising to find that context learners outperformed the rote ones mainly in the very short term (immediacy) whereas in the longer term (3 weeks), the experimental group failed to gain the significance in enhancing retention of new words in comparison with the control one. As such, it can be inferred that in the long run, the word retention level of the context and rote rehearsal was similar. Therefore, the outcome was compatible with that of Bui (2000) and Medina (2009) when studying the superiority of the two methods on 32 Vietnamese students who had spent 7 years learning English and on 50 students of 10^{th} and 11^{th} grades in the two rurals of Columbia, respectively. In their results, context and rote methods were offset mutual in the retention of words in the long- term memory, despite the tendency of better performance in the immediate testing condition. The plausible explanation for this discrepancy maybe in the smallernumber of participants and the shorter interval of the delayed test (one week after training) or the proficiency of partakers, relatively.

Another noteworthy point in the findings was the errors learners made in the research. It was found that learners who engaged in the semantic context condition made more spelling mistakes as a whole than the rote subjects. In other words, rote learners learned the exact spellings of the new words better than those in the context group. The result was then correlated with that of Bui (2000), who found that short-term rehearsal of letter sequences resulted in better long-term memories of exact orthographic representations. It also supported the claim of Ellis and Sinclair (1996) that phonological rehearsal of new words could promote better accuracy in foreign language pronunciation than other strategies that employed silent controls. In line with this finding, Gershman (1970); Gary & Gary (1982), Hill (1994), and Kelly (1992) also produced similar findings, indicating, to use Kelly's words, that *"the ear does assist the eye in the long-term retention of lexis*." In his study, the participants in the control group were asked to read the news extract, while those in the experimental one were required to both read and listen to it. The investigation was carried out to find out whether there were differences in the retention of language when both visual and auditory stimuli were employed as opposed to just a visual stimulus. It was found that reading-only resulted in higher 11 scores on tests taken immediately, whereas combined listening and reading resulted in higher tests when tests were delayed.

In addition, the fact that no semantically appropriate substitutions were found on the immediate test indicated the capable ability to acquire meanings of new words in the first learning phase of the two groups. However, in the delayed test, there existed a tendency for context-sensitive subjects to make fewer substitutions than the rote ones. The contrast, however, failed to achieve a significant result. Therefore, it might be stated

that there was no significant difference in making semantically appropriate substitutions of context vs. rote learning conditions in both short-term and long-term memory.

5.2 Implications of the study

On the basis of the findings in the present study, which indicated that learning vocabulary via context leads to better results on both short-term and long-term memory, it might be said that context was more favorable in achieving word meanings than rote rehearsal in general. Hence, some suggestions are made to exploit the effectiveness of using vocabulary strategies as part of the classroom teaching repertoire.First, it is obvious that inferring the meaning of words could create all kinds of links between the word, its meaning, the context, and the knowledge already present in the learners. These links provide additional retrieval routes, which increase the chance that the word and its meaning will be remembered (Anderson, 1990). As such, in daily classroom activities, teachers should provide students with systematic L2 vocabulary instruction, present vocabulary in context, and offer students the opportunity to guess the meanings through context to facilitate learning and longer retention.

Second, since context proved to be very effective for a very short time after training, and decreased its efficacy over a longer period, it is suggested that students should start recalling newly learned words immediately after the first encounter. The retrieval practice effect suggests that it is important to test memory while the subject is still capable of recall.

Third, since forgetting does occur in the process of learning, students need to be exposed to words more frequently to memorize the individual items for the sack of recall as well as recycle them for retention (for example, 1 week, 3 weeks, or 6 weeks thereafter).

Besides, by comparison, given the better results of context and rote rehearsal in terms of vocabulary retention and exact orthographic spellings of words, it might be assumed that a combination of the two methods would be more helpful in the long run of learning.

Moreover, this research was conducted for those at a low-immediate level of English only. So, learners with lower proficiency may find it impossible to use context strategy to discover the meaning of words because, as Rivers (1981) points out, there exist elusive words "*that even context cannot even elucidate*". In this case, a directly given-meaning word list with L1 translation from teachers or dictionaries followed by rote repetition cannot be underestimated because, for a long time, rote rehearsal and context retention outcomes have been proven to be similar.

Finally, teachers need to be aware that the effect of the learning conditions was closely related to other factors, such as the proficiency level, first language, and the combination of the learning and the test conditions. Therefore, the impact of context should be examined under the consideration of its interaction with other variables.

5.3 Limitations of the study

In addition to reaching the aims of the research, there still exist some considerable limitations of this study.

First, such issues as individual differences in learning styles, motivation, gender, age and prior knowledge could intervene in the vocabulary learning. As a result, the findings found should be generalized to other populations with care.

Second, the shortage of time was considered a constraint. In fact, the delayed test was organized three weeks after the training, which was a relatively short time due to the limited time to conduct the research. For this reason, it was not possible to measure the longer-term effects of context on learners' retention of new words. A stronger interaction between teaching methods and retention intervals might have been achieved if the test had been delayed for a longer time (4 or 5 weeks) or some follow-up tests were administered.

Third, the research was done with 60 students randomly assigned to groups with incontrollable inherent vocabulary learning ability. Thus, to be more reliable, the study should have involved more equivalent participants in terms of language capacity.

In addition, although before the test was conducted, it was stated that the test scores were accounted for investigation only, plain cheating was inevitable in such a course of nature. Consequently, more clear explanations of the purpose of research need to be taken into consideration for the next study to prevent unreliable results.

5.4 Further research

Although the study has proved that context has positive effects on learners' recalling and retention of vocabulary, it did not present enough evidence to show its effects on a wide range of learners. Therefore, further research should be conducted with larger samples at various levels of English so as to gain more consistent results.

Also, as Nation (2001) pointed out, one or two sentences may not provide sufficient context from which learners infer the target word's meaning. Therefore, a future study will need to provide sufficient context, such as a short reading passage, for the contextualized learning condition.Furthermore, gender, attitudes, and learning styles of learners towards the vocabulary learning process are also very important issues that need to be taken into account when carrying out further research.

Moreover, it is also necessary to conduct the next study on the other vocabulary strategies or the combination of them to promote learners' retention of words.

6. Conclusions

The findings from the data analysis showed that, in a general sense, context was proven to be a better strategy in terms of either word recalling or word retention, though nonsignificant results were found in the long run of teaching and learning vocabulary. These results not only affirmed the superiority of context, but also provided a closer look at the word learning process.

In sum, the findings of this study lend support to the hypothesis that guessing-from-context is a more effective and efficient strategy in comparison with rote rehearsal. The pattern in the results suggests that the guessing-from-context strategy works better and is, therefore, a possible choice for teachers in the selection of learning strategies with

which to train their students. Therefore, guessing word meanings through context is certainly worth practising regularly and systematically to improve learners' skills in deriving word meanings themselves and thus make them approach independent readers, despite the devoted time that may be required.

Conflicts of interest of statement

The authors whole names are listed immediately below certify that they have no conflicts of interest, authorship and disclosures in publication. They confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

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Appendix A: Initial Vocabulary Test Comprising 40 English Words

Write Down yhe Vietnamese Equivalents of any Words You Know:

1. competent	=
2. fussy	=
3. conscientious	=
4. hasty	=
5. spontaneous	=
6. deceptive	=
7. mean	=
8. offensive	=
9. arrogant	=
10. to infuriate	=
11. frustration	=
12. to baffle	=
13. bewildering	=
14. mystery	=
15. illegible	=
16. humiliate	=
17. awkward	=
18. stunning	=
19. priority	=
20. to coincide	=
21. fluke	=
22. affluent	=
23. weird	=
24. to distract	=
25. idiot	=
26. to pry	=
27. to compromise	=
28. to renovate	=
29. hilarious	=
30. relaxation	=
31. pessimistic	=
32. skeptical	=
33. to boast	=
34. vain	=
35. apathetic	=
36. introvert	=
37. to mystify	=
38. reluctance	=
39. dilapidated	=
40. to petrify	=

Appendix B: Selection Vocabular Test

1) spontaneous
2) deceptive
3) arrogant
4) to infuriate
5) frustration
6) to humiliate
7) stunning
8) fluke
9) weird
10) to distract
11) hilarious
12) skeptical
13) introvert
14) dilapidated
15) to petrify

Appendix C: Trained Words (N=15) and Their Associated English Sentences for Context Learners

1.	**Spontaneous**
	We didn't intend to have that party. It was completely **spontaneous**.
2.	**Deceptive**
	He may look honest, but appearances are often **deceptive**.
3.	**Arrogant**
	It's **arrogant** to believe that nobody can do anything better than you can.
4.	**To Infuriate**
	The decision to close the only village school has **infuriated** most parents.
5.	**Frustration**
	I can understand your **frustration**, but it will take some time for you to be able to speak the language well.
6.	**To Humiliate**
	She **humiliated** him by shouting at him in front of all his friends.
7.	**Stunning**
	Wow! This dress fits you so much. You look so **stunning** tonight!
8.	**Fluke**
	I don't know how I won the game - it was a **fluke**.
9.	**Weird**
	He's really **weird** - you never know what he is going to do.
10.	**To Distract**
	The noise outside **distracted** me while I was trying to work.
11.	**Hilarious**
	He told me **hilarious** jokes - I couldn't stop laughing.
12.	**Skeptical**
	She doesn't believe in my explanation. She still seems rather **skeptical** about it.
13.	**Introvert**
	If she weren't such an **introvert**, she would make friends more easily.
14.	**Dilapidated**
	They've spent a lot of money to make that **dilapidated** house become nicer.
15.	**To Petrify**
	Those police dogs are big. They really **petrify** me.

Appendix D: Trained Words (N=15) and Their Vietnamese Equivalents

spontaneous = tự phát

deceptive = làm cho nhầm lẫn, lường gạt

arrogant = kiêu căng, tự phụ

to infuriate = làm tức giận

frustration = sự chán nản, tuyệt vọng, bức bối

to humiliate = sỉ nhục

stunning = tuyệt vời

fluke = sự may rủi

weird = kỳ quặc

to distract = làm xao lãng

hilarious = vui nhộn

skeptical = nghi ngờ, đa nghi

introvert = người sống nội tâm

dilapidated = đổ nát

to petrify = chết điếng người

Appendix E: Post Training Vocabulary Test (N=15) Used for Both Immediate and Delay Tests

a. Write Down the English Equivalents Next to the Following Vietnamese Words:

1. Tự Phát	= _____
2. Sỉ Nhục	= _____
3. Kiêu Căng	= _____
4. Làm Xao Lãng	= _____
5. Làm Cho Nhầm Lẫn	= _____
6. Vui Nhộn	= _____
7. Làm Tức Giận	= _____
8. Tuyệt Vời	= _____
9. Nghi Ngờ	= _____
10. Người Sống Nội Tâm	= _____
11. Kỳquặc	= _____
12. Đổ Nát	= _____
13. Chết Điếng Người	= _____
14. Sự May Rủi	= _____
15. Sự Chán Nản	= _____

b. Choose the Correct Answer:

1. It is a **dilapidated** house.
   a) Nó là một căn nhà *đổ nát*
   b) Nó là một căn nhà *khang trang*
   c) Nó là một căn nhà *mới được sửa sang*

2. The party was **spontaneous.**
   a) Bữa tiệc này đã *được sắp đặt chu đáo*
   b) Bữa tiệc này là *tự phát*
   c) Bữa tiệc này thật *vui nhộn*

3. It was a **fluke.**
   a) Nó là một chuyện *xui rủi*
   b) Nó là một chuyện *may mắn*
   c) Nó là một chuyện *may rủi*

4. Appearances are often **deceptive.**
   a) Diện mạo thường *làm cho người ta nhầm lẫn*
   b) Diện mạo thường *xấu xa*
   c) Diện mạo thường *không quan trọng*

5. I can understand her **frustration**
   a) Tôi có thể hiểu được *sự căm ghét* của cô ta
   b) Tôi có thể hiểu được *sự chán nản* của cô ta
   c) Tôi có thể hiểu được *sự phấn khởi* của cô ta

6. It's a **hilarious** party.
   a) Bữa tiệc thật *linh đình*
   b) Bữa tiệc thật *vui nhộn*

c) Bữa tiệc thật *tuyệt vời*

7. She often **humiliates** him.
   a) Cô ấy thường *tỏ ra nhân từ* với anh ta
   b) Cô ấy thường *chiêu chuộng* anh ta
   c) Cô ấy thường *sỉ nhục* anh ta

8. He's **arrogant.**
   a) Anh ta *khiêm tốn*Anh ta *khôi hài*
   b) Anh ta *kiêu căng*

9. Don't try to **distract** me!
   a) Đừng cố *thu hút* tôi!
   b) Đừng cố *làm* tôi *xao lãng*!
   c) Đừng cố *phớt lờ* tôi!

10. He's rather **skeptical.**
   a) Anh ta *biết ơn*
   b) Anh ta *ngạc nhiên*
   c) Anh ta *nghi ngờ*

11. She's an **introvert.**
   a) Cô ấy là người *sống nội tâm*
   b) Cô ấy là người *giới thiệu*
   c) Cô ấy *quay về phía bên trong*

12. He was **petrified.**
   a) Anh ta *kiệt sức*
   b) Anh ta *chết*
   c) Anh ta *chết điếng người*

13. She is **weird.**
   a) Cô ấy thật là *tuyệt vời*
   b) Cô ấy thật là *kỳ quặc*
   c) Cô ấy thật là *hiền lành*

14. Their comments **infuriated** him.
   a) Lời phê bình của họ đã *khuyến khích* anh ta
   b) Lời phê bình của họ *làm anh ta tức giận*
   c) Lời phê bình của họ *làm anh ta nản lòng*

15. You look **stunning**!
   a) Trông anh *tuyệt* lắm!
   b) Trông anh *kỳ cục* quá!
   c) Trông anh *quê* quá!