國立政治大學英國語文學系英語教學碩士在職專班碩士論文

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單字練習題對第二外語字彙學習成效類型之影響

The Effect Type of Vocabulary Exercise on L2 Vocabulary Learning

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To Prof. Yu, Ming-chung

獻給我的恩師余明忠教授

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Finishing my thesis is like a dream to me. Being an in-service teacher, a wife and a mother, I was occupied with different tasks in life. It had been difficult for me to handle all the obligations; worst of all, I was diagnosed with an illness of a brain tumor after a series of health tests. After the operation to remove part of the tumor, I kept working on this thesis. With the support of the family, friends and teachers, I finally finished my master's thesis. However, this could not have happened without any help of many wonderful people.

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碩士論文題要

論文名稱：單字練習題對第二外語字彙學習成效類型之影響

指導教授：余明忠 博士

研究生：劉惠雯

論文提要內容：

本研究旨在探討三種不同的單字練習題型，對第二外語字彙學習成效類型之影響。依據涉入程度假說，涉入程度較高的單字練習題型，可以為學習者帶來更好的單字習得成效。因此本研究採用最常使用兩種的單字練習題－填空與造句，來組合成三種單字練習題型：一次填空題、三次填空題與造句題，來探討影響單字練習題成效的原因。另外，學習者的英文程度、年齡以及性別是否與單字練習題的效益有相互的影響，也在本研究中有所探討。

本實驗的研究對象為南台灣一所私立中學的七十二位學生，分別屬於一班三十六位國中部學生及一班三十六位的高中部學生。在實驗開始之前，研究者採用修正版的單字知識等級表(VKS)測驗，以確認受試者不認識實驗中的 15 個目標單字。實驗中，所有的受試者因皆完成三種單字練習題組，並得以練習 15 個目標單字，而每一種單字練習題組皆隨機出現，以避免序位效應。之後，受試者隨即接受後測，以了解學生記憶目標單字的情形。

研究結果顯示：(1)在記憶單字成效方面，三種單字練習題型皆有顯著的效果。其中，三次填空題型帶來最多單字知識與記憶保留的進步，其次為造句題型，第三為一次填空題型；而最高得分和次高得分的練習題型，兩者差異不顯著，但都和最低得分的一次填空題型有顯著的差異。(2)三種單字練習題型對於英語高、低成就者而言，皆能帶來單字知識與記憶保留的正面影響。而三種單字練習題型的成效，英語高成就者皆表現比英語低成就者較好。另外，對於英語低成就者，三次填空題型比一次填空題型可以帶

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來更多顯著的單字知識與記憶保留的進步。(3)三種單字練習題型皆能為高中與國中的學生，帶來單字知識與記憶保留的正面影響。而三種單字練習題型的成效，高中學生皆表現比國中學生較好。此外，三次填空題型比一次填空題型可以為高中學生群組帶來更佳顯著有益的單字記憶保留。(4)這三種單字練習題型皆能為男女生，帶來單字知識與記憶保留的正面影響。而一次填空題型和三次填空題型的單字記憶保留，女生表現比男生好；造句題型部分的單字記憶保留，則不相上下。此外，對於女生群組而言，三次填空題型比一次填空題型為更有助益之題型。

希望此實驗的結果，可以提供英語教師一些使用單字練習題的建議，來增強學生的單字習得與記憶，以提升字彙量。最後，根據實驗的結果，提供未來研究之參考方向和建議。

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Abstract

This study aimed to investigate the effect type of vocabulary exercise on L2 vocabulary learning. Based on the Involvement Load Hypothesis, the vocabulary exercises with higher involvement load claim better performance of vocabulary acquisition (Hulstijin & Laufer, 2001). In view of this, the efficacy of the exercises on word retention was explored with two types of commonly-used vocabulary exercises, exercises of blank-filling and writing original sentences. They were employed for three exercise conditions: one set of fill-in-the-blank, three sets of fill-in-the-blank and one set of writing original sentences. Besides, three variables of learner factors were also investigated in this study: English proficiency, age and gender.

Seventy-two students participated in this study. They were from two classes, one from junior high schools and the other from senior high schools, in a private secondary school in the southern Taiwan. Prior to the experiment, learners' vocabulary knowledge of 15 target words was examined by the modified Vocabulary Knowledge Scale (VKS). During the experiment, all of the participants practiced these target words in the three exercise conditions, which appeared in a random sequence to avoid the recency effect (Phillips, 1981). After the experiment, the vocabulary knowledge of these words was examined in an immediate posttest.

The results are summarized as follows. First, the three exercise conditions significantly enhanced the participants' word retention. Besides, Condition 2 (three sets of fill-in-the-blank) produced the most word gains, Condition 3 (one set of writing original sentences) made the more gains, and Condition 1 (one set of fill-in-the-blank) made the least gains. Also, Conditions 2 and 3 did not show a significant difference between each other while they each showed significant superiority over Condition 1. Second, the three exercise conditions exerted a significant effect on word knowledge and retention of both high and low English

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achievers. Specifically, high English achievers performed better than low ones in the three conditions, and Condition 2 facilitated the low English achievers' word retention more than Condition 1. Third, no matter senior and junior high school students, the three conditions all demonstrated positive effects on their word retention, but the senior high school students outperformed the junior high school students. Fourth, not only the males but also the females reaped benefits from the three conditions. However, the females outperformed their counterparts in all conditions, and they also yielded a markedly higher score in Condition 2 than in Condition 1.

It is hoped that the findings of the present study could offer English teachers some insights on how to apply vocabulary exercises to help improve learners' word acquisition, and retention.

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CHAPTER 1

INTRODUCTION

Background and Motivation

Recently, vocabulary has been considered a kernel in second language learning (Richards & Rogers, 2003). That is, vocabulary plays a fundamental role in overall competence of ESL/EFL learners. With sufficient vocabulary, a wide range of meanings is conveyed: thus in a L2 context, communication takes place in a meaningful way (McCarthy, 1990). On the other hand, a lack of adequate vocabulary may impede learners' development of the four language skills, namely listening, speaking, reading and writing (Nam, 2010). The importance of vocabulary knowledge has been emphasized in many domains of the EFL/ESL learning, such as in daily conversation (Coady & Huckin, 1997), in reading skills (Nagy, 1988; Guo & Roehrig, 2011; Stahl & Nagy, 2006) and in academic fields (Donley & Reppen, 2001, Saville-Troike, 1984). Also, research has shown the need of second language learners that they have to equip 2,000 words to hold conversations, 3,000 word families to understand authentic materials, and 10,000 words to comprehend difficult academic texts (Schmitt, 2000). The significance of teaching and learning vocabulary has been recognized and encouraged by foreign and second language teachers, learners and researchers.

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It is commonly discovered that vocabulary learning is quite a challenging task for foreign and second language learners (Green & Meara, 1995). Language learners have to devote time and effort to much lexicon. Meanwhile, teachers try hard to involve learners in a word-rich environment to foster the acquisition of new words. It has been suggested that teachers need be concerned about providing and scaffolding learning tasks of wide reading, writing and discussion in order to instruct vocabulary effectively (Blachowicz & Fisher, 2010). Two common ways to enhance learners' vocabulary learning are explicit vocabulary teaching and incidental vocabulary learning (Gass, 1999). However, many techniques of explicit vocabulary instruction are examined and criticized for taking too much time and effort to have an immediate effect on vocabulary knowledge and for hardly instructing too many words in class time (Nation, 2013). When the time constraint of English class at school restricted the power from explicit vocabulary teaching, incidental vocabulary learning is encouraged. It provides more opportunities to learn and acquire new words. It also serves a feasible way to increase learners' vocabulary size outside the classroom through their individual extensive reading. Studies show that incidental vocabulary learning has been recognized and supported to be more beneficial for lexical learning than explicit vocabulary teaching (Grabe & Stoller, 1997; Lao & Krashen, 2000; Pitts, White & Krashen, 1989; Zahar, Cobb & Spada, 2001). Even if these two common

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ways are found advantageous for learners to learn vocabulary, evidence (Hulstijn, 1992; Pressley, Levin & McDaniel, 1987) indicates that there are still some limitations or inadequacies, such as a low rate of word retention. Vocabulary learning tasks thus is a good solution, facilitating vocabulary retention in a L2 setting (Min, 2008; Nation, 2001).

Vocabulary learning tasks are proved to strengthen incidental vocabulary learning. These tasks include marginal glosses (Ko, 2005; Watanabe, 1997; Hulstijn et al., 1996), word-focused tasks (Paribakht and Wesche, 1997) and interactive tasks (Atay and Kurt, 2006), and so on. For example, learners can do written vocabulary exercises to enhance vocabulary learning after a reading-only activity (Paribakht & Wesche's, 1999). Moreover, in the study of Hulstijn & Laufer (2001), they suggest using Involvement Load Hypothesis (ILH) to evaluate the efficacy of each task. The hypothesis contains three components: need, search and evaluation. It explains the degree of involvement among a word and tasks, and predicts the likelihood of word retention. For instance, a task of writing may have better retention performance than a gap-filling task. Some studies have pointed out that more vocabulary growth is associated with the higher involvement loads of a task (Keating, 2008; Laufer, 2005; Laufer & Hulstijn, 2001). However, with a different opinion on the ILH, Folse (2006) and Lee and Hirsh (2012) argued that the number of word retrievals is another

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important feature of a given L2 vocabulary exercises. Owing to the different viewpoints mentioned above, the present study attempts to apply the similar methodology of Folse (2006) to investigate how the hypothesis and word retrievals influence EFL learners in a different cultural context of Taiwan.

For the EFL students in Taiwan, based on the twelve-year Basic Education Curriculum Guidelines (Ministry of Education, 2018), junior high school students are required to learn at least 1200 frequent words; senior high school students, 4500 frequent words. Compared to the old curriculum of Grade One to Nine Curriculum in 2001, the number of English sessions for secondary school learners is reduced to 3-4 class hours per week. In reality, it is quite challenging for teachers to manipulate diverse vocabulary learning activities and for students to learn such a huge amount of vocabulary well in the limited class time (Cheng, 2006). So far, a number of the studies on senior high school English teaching have reported that there exists a big gap in the number of vocabulary between junior high and senior high schools (Lee, 1987; Huang, 1999; Yang, 2002). Senior high school students need to memorize almost four times more. Accordingly, secondary students have to focus on how to meet the expectations; however, many of them may suffer difficulty learning a large number of vocabulary items. Therefore, it is important for English teachers to push students to retrieve and use the words they have learned. With the use of effective

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written exercises, the newly-learned vocabulary can be effectively strengthened and retained in learners' lasting memory (Hulstijn, 2005).

Exercises provide leaners to process new words in new context, yet the EFL instructors in Taiwan typically pay more attention to sentence patterns, translation instruction (Huang, 2001) and vocabulary strategies rather than vocabulary acquisition and retention through written exercises. Very often, students are taught new vocabulary and forced to memorize words that they neither comprehend nor have desire to learn. Besides, few written practice and exercise activities come after vocabulary instruction with the limited time at school. This situation leads to lack of evidence. Little attention has been given to and few studies have investigated the efficacy of vocabulary-enhancing exercises on the Involvement Load Hypothesis in foreign language learning in Taiwan. Besides, the majority of international studies have been conducted with adults learning English with advanced or intermediate language levels; yet, few of them worked with adult elementary-level EFL learners (Javanbakht, 2011; Keating, 2008). The previous related studies explored only one level of proficiency and did not examine whether or not the effect of vocabulary-enhancing exercises would remain constantly and effectively with different levels of proficiency or not. Thus, there is a need for the researcher to work on the facilitating effects of vocabulary exercises on vocabulary retention. This

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research is intended for a probe into how written exercises facilitate the development of lexical retention of EFL secondary students and find out how the influence of written exercises works in retaining vocabulary across language proficiency, age or gender.

Purpose of the Study

Few research about the impact of different written exercises on vocabulary retention is conducted for secondary school leaners of English as a foreign language. There is a conflict among the previous studies over different features of exercises. Besides, it was suggested that improving the effectiveness and efficiency of vocabulary acquisition could help enhance leaners' foreign language acquisition (Hearly et al., 1995). The purpose of the study was to investigate the effects of two types of written vocabulary exercises, fill-in-the-blank exercises and one-sentence writing exercises, on the vocabulary acquisition and retention of EFL secondary school students in Taiwan. The study was a replication of Folse's (2006) experiment design, where Folse (2006) developed the exercises mentioned above into three conditions of one fill-in-the-blank exercise, three fill-in-the-blank exercises and writing original sentence (WOS). It attempted to provide more empirical evidence to find out whether higher involvement load or multiple retrievals bring more

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vocabulary retention in different written exercises. Furthermore, three additional aspects would be also explored based on the language proficiency, age, and gender respectively.

Significance of the Study

Due to the implementation of 12-year Basic Education Curriculum in Taiwan, the number of English sessions at secondary schools has been reduced to 3-4 class hours per week. This may make most English teachers of secondary schools meet an enormous challenge to provide sufficient exposure to new words and to repeat contact with them. Therefore, it is necessary for teachers to focus on written vocabulary exercises as the next step after teachers' vocabulary instruction.

The present study investigated the efficacy of written exercises on vocabulary retention of the secondary school students. The findings may offer knowledge about the vocabulary growth and retention through written exercises done by high school students in Taiwan. First, the study may verify that vocabulary exercises can be effective to commit the target words to the participants' memory. Moreover, it is hoped that the study could shed some lights on the conflicting results in the previous studies of vocabulary learning tasks, especially concerning involvement loads and multiple retrievals. Besides, the findings in this study may bring benefits for English

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teachers who attempt to provide more exposure to target words and provide more suitable vocabulary exercises. The results of the present study might give empirical evidence to the textbook editors and curriculum designers to look at the value and different features involved in written exercises, and they can design teaching materials which might effectively and efficiently strengthen the connection between word and meaning. Next, the findings might give teachers suggestions that they could adopt different vocabulary exercises based on individual learners' needs. As teachers grow to understand better, it becomes feasible for them to provide useful types of exercises according to learners' different levels, ages and genders.

To sum up, it is believed that the current study can offer some inspiration for the vocabulary enhancement exercises on learners' word retention, offering some pedagogical implication for not only EFL secondary school language instructors but also textbook and curriculum designers in Taiwan.

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CHAPTER 2

LITERATURE REVIEW

The present study aims to investigate the effects of written vocabulary exercises on lexical retention of EFL secondary school students in Taiwan. This chapter presents a review of the relevant literature in the following five sections. In the first section, it describes the nature of vocabulary acquisition. The second section elaborates on studies of incidental vocabulary learning, especially into the vocabulary increments through reading and through different activities. Section three focuses on EFL vocabulary exercises and the factors affecting the efficacy of written exercises on EFL vocabulary retention. Section four deals with the hypothesis of Involvement Load. The last section, Section five, reviews previous empirical studies on Involvement Load Hypothesis.

Vocabulary Acquisition

Vocabulary is seen as the building blocks of language. Various studies reported that vocabulary learning is one of the main determinants to achieve success in foreign language learning (Hughes, 2011; Tokowicz, 2015; Gass & Selinker, 2008). Knowing a word is a complex cognitive process. Language learners needs to recognize the link between form and meaning, to know different aspects about the lexical items, and

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further to understand how to use a word appropriately in a new context (Nation, 2005). As Nation (2013) pointed out, three aspects are involved: form, meaning and use. Word form includes the spoken or written form, and parts of speech. Word meaning consists of form-meaning connection, concept and referents, and word associations. Word use is to know the grammatical functions, collocations and constraints. The former two aspects, form and meaning, are better able to be presented in direct vocabulary learning. The other aspect, word use, has been an arduous task for teachers to teachers cope with.

Incidental Vocabulary Learning

An increasing number of studies look at the themes of incidental and intentional learning. In incidental learning, learners attend to new information by doing something else, instead of memorizing the information (Richards & Schmidt, 2002). For instance, “incidental learning can occur when one is using language for communicative purposes” (p. 120). Thus, incidental learning could take place in a variety of situations and be extensively applied in the pedagogy of language learning, like vocabulary learning.

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Incidental Vocabulary Learning

As for incidental vocabulary learning, Laufer and Hulstijn (2001) defined the acquisition of vocabulary as a by-product of a task or an activity. Learners process the task and acquire new words without committing the lexical information to memory.

In the field of language pedagogy of L1 and L2, incidental vocabulary learning is widely acknowledged as an effective way to develop vocabulary and word knowledge when rich and meaningful contexts are provided (Day, Omura & Hiramatsu, 1991; Nagy, Herman & Anderson, 1985). In this learning, a great amount of words are acquired incrementally for repeated exposures in various discourse contexts (Nagy, Herman & Anderson, 1985; Stoller & Grabe, 1993). Learners of the first language primarily gained the majority of vocabulary with multiple exposures from reading and inference from the context (Fraser,1999; Laufer, 2001). Moreover, many researches have shown that L2 extensive reading has substantially positive effects on vocabulary acquisition (Grabe 2009; Grabe & Stoller 2011; Huang & Liou 2007). In other words, L2 learners' vocabulary may progress slowly and laboriously without sufficient exposures to the unknown words in reading (Nagy, Herman & Anderson, 1985). Accordingly, a large degree of word learning results from incidental learning through reading.

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Incidental Vocabulary Learning through Reading

Researchers support that reading brings many incidental vocabulary learning benefits, such as contextualization, effectiveness and individualization (Zimmerman, 1997; Huckin & Coady, 1999). First, lexical meaning of target words is contextualized when being presented in context. Learners can gain comprehensive understanding of different aspects of the words rather than commit the form or the meaning to memory. Second, reading is a pedagogically efficient way for language instructors and learners. In reading, learners use strategies to perform the assigned tasks and learn target vocabulary simultaneously, which is popular with teachers. Third, reading is more learner-centered and individualized; therefore, learners can accomplish the tasks with their individual learning speed (Huckin & Coady, 1999).

Despite the fact that reading results in the most incidental learning of vocabulary, the evidence suggests that there be limited L2 vocabulary gains from reading (Hulstijn, 1992). That is, incidental vocabulary of L2 learners grows 1-5 words from short texts of up to 7,000 words (Laufer, 2003). It is because of the following reasons. First, in a reading activity, there is no need for learners to understand unknown vocabulary once they grasp the message conveyed by the text (Huckin & Coady, 1999; Paribakht & Wesche, 2000). Second, learners fail to infer correct meaning with inadequate contextual clues (Min, 2008; Bensoussan & Laufer, 1984; Carnine, Kameenui &

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Coyle, 1984). Third, though learners have repeated exposure to target vocabulary, the amount of word exposure is limited (Min, 2008; Hulstijn , Hollandar & Greidanus, 1996). In view of this, reading-only approach may bring about low L2 vocabulary growth, albeit large degree of L1 word learning. Some interventions should be implemented to accompany reading for better vocabulary acquisition, especially for ESL or EFL learners.

Incidental Vocabulary Learning through Reading Plus Word-focused Activities

During reading, readers focus on meaning or communication without deliberately committing of lexical information into memory, which leads primarily to learning vocabulary incidentally and, consequently, to acquiring few words gains (Huckin & Coady, 1999). To improve the low incidence of vocabulary acquisition, a number of studies have revealed positive evidences that EFL learners should make use of word-focused tasks to complement a reading-only activity (Nation, 2013; Huckin & Coady, 1999; Stoller & Grabe, 1993). Amiryousefie and Kassainan (2010) also discovered the facilitative effects of learning tasks on incidental vocabulary acquisition and retention. They compared the effectiveness between a reading-only activity and a reading plus activity. It was found that learners had greater gain of vocabulary knowledge in the reading plus activity, compared with those in the

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reading-only activity. For example, vocabulary-enhancing exercises serve to be a good method through directing learners' attention, providing mental process, expanding vocabulary and learning target words in depth (Laufer, 2001; Kargozari & Ghaemi, 2011).

EFL Vocabulary Exercises and Vocabulary Knowledge

Vocabulary Exercises

Vocabulary exercises vary when different aspects of vocabulary knowledge are practiced (Folse, 2006). Those aspects are words' meaning, words' spelling, part of speech, morphology, meanings in a specific context, connotation, usage, synonyms, antonyms and collocations (Folse, 2006). As Laufer (2003) compared two learning tasks of the reading activity and the word-enhancing exercise, the learners practiced different aspects of vocabulary knowledge. The results showed that the word-enhancing group had distinct word retention. We can conclude that different tasks, requiring different task demands, lead to different degrees of word acquisition.

Factors Affecting the Efficacy of Vocabulary Exercises

Two major factors encouraging efficacy in an exercise design are noticing and attention, which are extensively discussed in L2 acquisition studies (Schmidt, 1990;

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Truscott, 1998). These two factors are closely related as it is commonly believed that noticing is the process of "giving attention to an item" (Nation, 2001, p.74). When attention is drawn to a stimulus, the stimulus will be encoded into further processing in the learners' mind (Logan, Taylor & Etherton, 1996). Moreover, Folse (2006) also emphasized that different exercise types succeed in drawing learners' attention to a particular lexical item and noticing it. Therefore, written vocabulary exercises indeed help activate learners' attention and noticing, understand the word's meaning and function, and establish vocabulary knowledge (Min & Hsu, 2008).

Involvement Load Hypothesis

A crucial theoretical assumption is the depth of processing hypothesis, applied to most of the research on incidental vocabulary learning (Eysenck, 1982). The fundamental notion advanced by Craik & Lockhart (1972) is that "memory trace can be understood as a by-product of perceptual analysis and trace persistence is a positive function of the depth to which the stimulus has been analyzed" (p.671). They suggest that the deeper the levels of processing are, the more elaborate, durable and stronger traces of memory are. More elaborate manipulation of a new word will produce better retention (Laufer, 2001). Furthermore, it is not the length of processing time but depth of processing that increases the efficiency of retention (Eysenck, 1982;

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Craik & Tulving, 1975; Eysenck & Eysenck, 1979). Craik and Tulving (1975) further interpreted “depth” as greater degrees of semantic involvement. Semantical processing of words is associated with higher retention of them. In summary, it could be suggested that the depth of processing be dependent on how to elaborate the learning (Hulstijn & Laufer, 2001). In different task-based vocabulary learning, unfamiliar words are processed and manipulated to different degrees.

Despite a significant impact of depth of processing on memory research, it is acknowledged that the notion of depth lacks operational definitions (Baddley, 1978; Craik & Lockhart, 1972). No research showed positive evidence that any exercise type requires deeper depth of processing than others (Folse, 2006). Therefore, Hulstijn and Laufer (2001) proposed the Involvement Load Hypothesis, which not only identifies the components of a learning task but also evaluates and predicts its effectiveness on vocabulary retention. The ILH, the motivational and cognitive construct of involvement, includes three basic components of learner involvement: need, search and evaluation.

Need, a motivational and non-cognitive dimension of involvement, deals with the motivation to perform a task (Laufer & Hulstijin, 2001), either imposed internally or externally. A need can be moderate when a task is imposed on learners by an external command, like an authority. It can be strong when a task is approached by a

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learner's internal will. As opposed to the need component, the search and evaluation components are two cognitive dimensions of the hypothesis. The search component refers to "the attempt to find out the meaning of an unknown L2 word or the L2 word form expressing a concept by consulting a dictionary or another authority" (Laufer & Hulstijin, 2001, p.14). The component has two levels of importance with a moderate degree: an absent 'search' occurs when the meaning of an unknown word is provided in the marginal glosses; a moderate one, when the meaning of an unknown word is understood by consulting a dictionary or another authority (e.g., teachers). Evaluation means "a comparison of a given word with other words, a comparison of one specific meaning of a word with its other meanings, or a comparison of the word with other words in order to assess whether a word (i.e., a form-meaning pair) does or does not fit its context" (Laufer & Hulstijin, 2001, p.14). The evaluation component can be moderate or strong. It is moderate when learners are required to compare a word with other words in producing a sentence or to compare different meanings of a word within a given text. It is strong when learners decide how to combine a lexical item other words in a sentence.

"Involvement load" refers to "the combination of these three components with their degrees of prominence" (Hulstijin & Laufer, 2001, p.15) Each of the above three components may be absent or present simultaneously with different degrees of

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prominence. The combination of them constitutes the 'involvement load'. Laufer and Hulstijin (2001) pointed out that a task with higher involvement load promote the stability of word retention. They also proposed the involvement index to measure the degrees of involvement load, where the absence of a component is marked as 0, a moderate presence of a component is 1, and a strong presence of a component is 2.

In term of exercise types, different tasks generate different involvement loads. Two tasks are described below to illustrate varying involvement loads. In one task of fill-in-the-blank, a learner, provided with the meanings of new words, is asked to consider new words in a sentence context and put the best one in a blank to fit the context. In such a case, the task is rated as moderate need (1), absent search (0) and moderate evaluation (1). In the other task of writing original sentences, the task requires the learner to compose a new sentence with an unfamiliar word of which the meanings are provided. The task induces a moderate need (1), no search (0) and a strong evaluation (2) for a score of 3. Accordingly, a learner-generated context contains a higher evaluation index than teacher- or textbook-generated sentences in fill-in-the-blank exercises (Folse, 2006). With higher degrees of involvement loads, a learning task may result in the better learning of new vocabulary (Bao, 2015; Marmol & Sanchez-Lafunte, 2013).

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The Overview of Previous Studies on ILH

As the Involvement Load Hypothesis is clear and precise, task features can be manipulated in learning activities (Bao, 2015; Keating, 2008; Zou, 2017; Tang & Treffers- Daller, 2016). Many researchers have investigated the motivational cognitive construct of the ILH and explained about their experimental results from its assumptions. In this section, the following review is about the empirical studies based on the Involvement Load Hypothesis to examine the effects of vocabulary tasks on vocabulary retention.

Hulstijn and Laufer (2001) conducted a parallel-experiment study of 186 advanced Dutch- and Hebrew EFL adult learners in the universities. They compared three tasks and discovered that composition-writing excelled reading with marginal glosses and reading with fill-in-the-blank questions. In Hebrew-English experiment, the fill-in group outperformed the gloss group; in Dutch-English experiment, the fill-in and gloss groups had similar performance. Though there is a slight difference between these two parallel experiments, the results completely and partially confirmed the predictive nature of ILH that “words which are processed with higher involvement load will be retained better than words which are processed with lower involvement load” (Laufer & Hulstijn, 2001). Besides, in the studies of Keating (2008), Kim (2008) and Tu (2004), the researchers replicated the experiments of

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Hulstijn and Laufer (2001) for further research on the assumption of this hypothesis. The results supported the Involvement Load Hypothesis, showing positive effects of tasks on vocabulary acquisition.

Moreover, Tang and Treffers-Daller (2016) investigated the effectiveness six learning tasks of different involvement loads and discussed three components of involvement in vocabulary learning and retention. They found evidence completely supporting the IL hypothesis. The results indicated that the participants learned more words in the tasks of a higher involvement load than tasks with those of a lower involvement load. Similarly, Kim (2008) conducted two experiments and provided positive evidence for the hypothesis. The first experiment explored the efficacy of three tasks with 20 adult ESL participants of different proficiency. The results indicated that higher involvement loads produces more effective word learning. The second experiment examined exercises of writing compositions and writing sentences for the impact of equivalent involvement loads (involvement load =3). The results were equal in different of identical involvement loads. Kim (2008) successfully proved that the efficacy of a learning task may be contingent upon the involvement load values instead of task types.

However, there are some studies partially or scarcely in accordance with the Involvement Load Hypothesis (Folse, 2006; Keating, 2008; Zuo. 2017; Marmol &

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Sanchex-Lafuente, 2013; Martinez & Fernandez, 2008; Yaqubi et al, 2010). Keating (2008) and Marmol & Sanchex-Lafuente (2013) compared three tasks of writing sentences, gap-filling in the text and reading the text gave partial support for this hypothesis. In Keating's study (2008), the results demonstrated that significant differences existed in the active recall (L1－> L2 translation), not in passive recall (L1－> L2 translation). The sentence-writing group had more scores than the fill-in group; the fill-in group, more scores than reading group; however, learners received different vocabulary retention on active and passive tests. As for Marmol and Sanchex-Lafuente's (2013) study, the results showed that the highest involvement load induced by the task, writing sentence with looking up words, did not imply the superiority of it; though, the other three tasks proved the hypothesis and demonstrated their efficacy according to their involvement loads.

What's more, Yaqubi, Rayati, and Gorgi's (2010) provided the counterevidence in the study. They examined the effects of three tasks: the text fill-in task with looking-up the words, the text fill-in task with glosses and the text fill-in task with a composition writing. The results provided negative evidence about the Involvement Load Hypothesis. The text fill-in task with glosses (involvement load = 2) yield a effect stronger than the text fill-in task with looking-up the words (involvement load = 3). The text fill-in task with looking-up the words (involvement load = 3) excelled the

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text fill-in task with a composition writing (involvement load = 3). Yaqubi, Rayati, and Gorgi (2010) concluded that the involvement loads may not determine how well a task aid vocabulary learning and retention.

Another important feature, multiple retrievals, was discussed in some research (Folse, 2006; Lu, 2013; Jahangiri & Abilipour, 2014) while higher involvement loads did not show the superiority over lower involvement loads. Folse (2006) discovered that three fill-in-the-blank exercises promoted significant vocabulary growth because of repetition. He investigated 154 ESL university learners with diverse English proficiency, and compared three types of exercises: one fill-in-the-blank (involvement load = 4), three fill-in-the-blank (involvement load = 4) and writing original sentences (involvement load = 5). In the latter two exercises, the time on task was controlled and identical. The results showed that three fill-in-the-blank exercises obtained the highest score; writing original sentence exercise yielded higher score; one fill-in-the-blank exercise scored the lowest. Clearly, multiple retrievals of target words compensated for the lower involvement loads.

Likewise, Lee and Hirsh (2012) and Sun (2007) echoed Folse's claim for further research on word retrievals to examine the efficacy of vocabulary exercises. They employed a similar experiment design to Folse's (2006), and compared a triple multiple-choice exercise with a sentence writing exercise. They proved that three

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multiple-choice exercises produce a more significant task effect than one sentence writing. These findings showed inconsistency with the prediction of the Involvement Load Hypothesis (Hulstijn & Laufer, 2001). Multiple encounters with target words could lead to greater vocabulary retention than a task with a higher involvement load.

While a review of literature brings supportive and contradictory evidences pertaining to the Involvement Load Hypothesis, some issues remain inconclusive. First, most of the previous studies investigated varying degrees of involvement loads induced by learning tasks; few of them explored whether multiple retrievals of a word could demonstrate its superiority in word retention over involvement loads. There is a need to make a task effect comparison of involvement loads with that of word retrievals. Moreover, previous research was almost based on samples of the intermediate or advanced adult EFL learners. There were rare studies done on the beginning learners, especially on EFL teenage learners in Taiwan. Furthermore, relatively few studies were conducted across gender. Therefore, the present study was the replication of Folse's (2006) study to reexamine the effectiveness of the exercises on high school learners' vocabulary growth and retention. Two types of fill-in-the-blank exercises and one-sentence writing exercises were developed with three conditions, which are (1) one set of fill-in-the-blank exercise, (2) three sets of fill-in-the-blank exercises and (3) one set of writing original sentence exercise. Also,

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the current study attempted to explore the variables of proficiency, age and gender and compare them with vocabulary exercises in pedagogy.

Research Questions

The present study aimed to address the following research questions:

1. Is there any difference in word retention among the one fill-in-the-blank group, three fill-in-the-blank group and writing original sentence group?
2. What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of low and high English achievers?
3. What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of junior high school and senior high school learners?
4. What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of learners across gender?

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CHAPTER 3

METHODOLOGY

The current study is a follow-up research to Folse's (Folse, 2006). The purpose of it was to investigate the effects of vocabulary exercises on Taiwanese teenage learners' vocabulary retention. The description of the research design is provided in four sections, including the participants, instruments, procedure and data analysis.

Participants

The participants consisted of seventy-two 8th and 10th grade EFL students (13-15 years old) in a private secondary school in Yun-lin. They were from two intact classes, of which the size is limited to 36 students. All of them were native speakers of Mandarin and had studied English at least for 1.5 years and 3.5 years respectively through formal English instruction at secondary school in Taiwan. As for English proficiency level, the participants' English competence differed from each other. Sixty-six participants were identified as low achievers; six of them, as high achievers since they had passed the elementary level of GEPT. There were reasons for selecting the 8th and 10th grade students as participants. In terms of the 8th graders, they were considered to have more knowledge and experience about vocabulary and grammar rules, and less stress and anxiety at the Comprehensive Assessment Program for

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Junior High School Students in the following year. As for the 10th graders, they were expected to learn and develop a wide vocabulary well in the limited class time, and were less worried and nervous about the General Scholastic Ability Test. Additionally, the current research was likely to be conducted conveniently because they were taught by the identical English teacher.

Displayed in Table 3.1, the descriptive statistics indicated the 72 participants' different backgrounds. First, in terms of English proficiency, the participants were stratified into two levels. There were sixty-six participants (66 out of 70) in the low-achiever group (92%) and six in the high-achiever group (8%). Next, as for age, the equivalent distribution of 36 is shown in each grade; that is, 36 participants studied in a junior high school (50%) and 36 of them studied in a senior high school (50%). Last, in terms of gender, 47 participants are males (65%) and 25 are females (35%).

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Table 3.1 Descriptive Statistics for the Participants' Demographic Background (N=72)

Item	Groups	Frequency	Percentage (%)
English	Low achievers	66	92
Proficiency	High achievers	6	8
Age	Junior High	36	50
	Senior High	36	50
Gender	Male	47	65
	Female	25	35

Instruments

To accomplish the purpose of this study, the instruments consisted of target words, a pretest, a posttest, a mini-dictionary, three vocabulary exercise conditions and practice booklets.

Target words

The fifteen chosen target words were assumed to be unknown to the participants. In order to ascertain that, the researcher selected potential target words by examining two issues of *Studio Classroom*. Besides, the words were exclusive of the MOE's 1200 fundamental English word list for elementary and

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junior high school students (MOE, Republic of China, 2018). Next, for a well-developed list of unknown words, a pilot test was carried out with another EFL leaner group (n=10), who did not participate in the main study and had a higher proficiency level. The fifteen target words were selected for the current study and based on the criteria as following. First, all of the target words were nouns, the easiest grammatical category of words (Laufer, 1990). These words could eliminate the effect of word form and increase the chance of actual effect of exercises (Folse, 2006), so that the participants paid little attention to grammatical concerns. Second, the frequency level of the target words were consulted by Nation's (1984) vocabulary lists, ranged from 2000 to 4000 (from a high-frequency vocabulary to mid-frequency vocabulary), and beyond the MOE's 1200 fundamental English word list for elementary and junior high school students (MOE, Republic of China, 2018). Schmitt's (2000) indicated that excellent target words were derived from the most frequent vocabulary in a language. Schmitt and Schmitt (2012) suggested that mid-frequency words be a goal of vocabulary learning that the learners should be encouraged to take. Third, the target words began with identical letters in one or two syllables (e.g., see the lexical items of *battle, breath* and *burden* in all three groupings in). The reason can be referred to Cole (1982). He pointed out that word length may affect

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vocabulary retention owing to the constant failure of long words to be spelled correctly. Fourth, all the target words were up to pedagogical expectations that facilitate students to describe their own life experiences (Beck, McKeown & Kucan, 2002). Table 3.2 presents the fifteen target words and three distractors, which were grouped into three clusters. To avoid extraneous variable, the words in each cluster began with the following identical letters, b, f, l, m, r, and w. Also, the length of each word fell into the range from 5 to 7 letters in one or two syllables.

Table 3.2 Three groupings of the target words

Group	**Target words**
A	battle, faith, label, mercy, risk, wreck
B	breath, fate, lawn, moral, rumor, whisper
C	burden, frame, ladder, mood, rod, wisdom

Note. Distractors are mercy, moral and mood

Pretest and Posttest

With the VKS (Wesche & Paribakht, 1996) and Folse's modified VKS (Folse, 2006), some specific word gains can be deciphered during the beginning

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vocabulary development (Wesche & Paribakht, 1996). The present study adopted Folse's modified version (Folse, 2006) as a pretest and a posttest. Both were identical tests (see Appendix A) to measure the participants' understanding of the target words before and after the experiment. A pretest was to evaluate the participants' beginning knowledge of target words while a posttest was to measure the participants' word retention.

The Design and the Scoring of VKS

Folse's modified VKS (Folse, 2006) comprised two scales, an elicitation scale and a three-point scoring scale. An elicitation scale was about three self-report categories to elicit the participants' responses to one particular word. A three-point scoring scale meant to score their responses (Read, 2000). Each word could receive a score ranging from 0, 1 or 2. Both scales are presented in Figure 3.1.

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The Vocabulary Knowledge Scale (VKS) Modified by Folse (2006)			
Scale 1: an elicitation scale		Scale 2: a three-point scoring scale	
Self-report Categories	Meaning of Categories	Possible Scores	Meaning of Scores
I	I don't know this word.	0	The word is not familiar at all.
II	I know this word.	1	A correct synonym or translation is given.
III	I can use this word in a good example sentence.	1	I can use this word in a good example sentence.

Figure 3.1 The Design and Scoring of VKS

As Figure 3.2 demonstrates, there were three categories for each target word. The first category was to show that the participants were not familiar with the word at all. The second category indicated that the participants could write down possible equivalents or definitions either in English or in Chinese. The third category suggested that the participants created a sentence with the target word.

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1. I don't know this word.

2. I know this word. It means _____.

(provide an English synonym or a translation in your native language)

3. I can use this word in a good example sentence. Write your sentence here.

_____

(If you do #3, you must do #2 also.)

Figure 3.2 Modified Vocabulary Knowledge Scale

The three self-report categories with a list of 24 target words (see Appendix A) were given to the participants in the pretest and posttest to evaluate and track their word knowledge of the target words. With regard to the inter-rater reliability of this study, the pretest and posttest were evaluated by two dependent raters, the researcher and a secondary school English teacher, who had been teaching English over ten years. They scored target words separately based on the scoring scale modified by Folse (2006). Subsequently, they got together, discussed the differences of the participants' answers and reached a consensus on scoring criteria. Again, they scored the participants' pretest and posttest individually. The two raters' results would be

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compared by Pearson's correlation coefficient.

Mini-dictionary

In the study, a self-created mini-dictionary (see Appendix B) was offered to the participants as a reference to the eighteen target words. Each of them was bolded and was followed by its part of speech, the definition and two simple sentences. The target words were listed in an alphabetical order and were isolated with suitable space provided among them.

Three Vocabulary Exercise Conditions

Three vocabulary exercise conditions were given in the experiment: (1) one fill-in-the-blank exercise, (2) three fill-in-the-blank exercises and (3) writing original sentences.

Condition 1: One fill-in-the-blank Exercise

Condition 1 referred to one set of fill-in-the-blank exercises and was displayed on a one-page sheet (see Appendixes C, D, and E). It contained five fill-in-the-blank exercises to practice five target words. In each exercise, there was a sentence with a blank of equal length showing where the target word

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should be filled in. On the top of the page were five target words and one distractor arranged in an alphabet order. Also, the instructions were presented in Chinese and read, “Fill in the blanks with one of these words. Each word should be used just one time” (Folse, 2006).

Condition 2: Three fill-in-the-blank Exercises

Condition 2 provided three sets of fill-in-the-blank exercises and contained three-page sheets (see Appendixes F, G and H). Another group of five target words were included and expected to be met with a total of three times. Based on the experiment in Folse’s (2006) study, doing one set of WOS took approximately triple the time for one set of fill-in-the-blank exercises. That is, the words in Condition 2 were practiced in three different sentences by filling in the suitable target words. The reason why Condition 2 repeated the exercises of fill-in-the-blanks three times was to aim at how the retention effect might change under the same amount of time.

Condition 3: Writing original sentences

Condition 3 (see Appendixes I, J and K) involved the participants making their own sentence with the other five target words. On the top of the page, there

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were instructions printed in Chinese and reading, “Make a sentence with each of the given target words to demonstrate that you know the meaning of it,” and was illustrated with a correct example and an incorrect one. For the sake of the proficiency of the participants, they were allowed to put some Chinese in their own sentences but, ideally, were encouraged to write in full English.

Practice Booklets

The practice booklets were designed to explore the retention effects of different vocabulary exercises. They were six-page practice booklets. The first page displayed the general instructions of the booklets (See Appendix L). For the following five pages, Condition 1, one set of fill-in-the-blank exercise, was presented on one page; Condition 2, three sets of fill-in-the-blank exercise, was shown on three pages; Condition 3, a set of WOS, was for one page. On the first page in each condition, there were two blanks for the participants to fill in the time when they began and finished each condition.

Also, the practice booklets were created by the steps as follows. First, the fifteen target words were divided into three groups (A, B, C). And six permutations (ABC; ACB; BAC; BCA; CAB; CBA) were considered to eliminate the effect caused by the order of exercises. Second, another six

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permutations of three exercise conditions (123, 132, 213, 231, 312, 321) were considered for the recency effect (i.e. the tendency to remember information of the word items appearing at the last meeting best; Phillips, 1981). Hence, there were 36 combinations (6 word group permutations multiply 6 exercise condition permutations). For example, the combination of ACB-231 means that a practice booklet consisted of (1) a word group A with Condition 2, (2) a word group C with Condition3, and (3) a word group B with Condition 1. The possible combinations of assortments were given with Table 3.3.

Table 3.3 Assortments of word groups and exercise conditions

Assortment	**Six Orderings of the assortment**
ABC-123	A1-B2-C3,A1-C3-B2,B2-A1-C3,B2-C3-A1,C3-B2-A1,C3-A1-B2
ACB-123	A1-C2-B3,A1-B3-C2,B3-A1-C2,B3-C2-A1,C2-B3-A1,C2-A1-B3
BAC-123	B1-A2-C3,B1-C3-A2,A2-B1-C3,A2-B1-C3,C3-B1-A2,C3-A2-B1
BCA-123	B1-C2-A3,B1-A3-C2,A3-B1-C2,A3-B1-C2,C2-B1-A3,C2-A3-B1
CAB-123	C3-A1-B2,C1-B2-A1,A1-B3-C2,A1-C2-B3,B3-A2-C1,B3-C1-A2
CBA-123	C1-B2-A3,C1-A3-B2,A3-B2-C1,A3-C1-B2,B2-A3-C1,B2-C1-A3

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Procedure

Referring to Folse's (2006) earlier research, the procedure of this study shown as follows.

Stage 1: Pilot study

Before the study began, the pilot test was carried out with 10 students in another tenth grade class, who did not participate in the main study and had a higher proficiency level than the actual participants did. The purposes of the pilot study were to ascertain that the chosen target words in the main study were unknown to the participants. Also, adjustments were made to avoid some problems existed in the pilot study. First, a new target word, whisper, replaced the word, weapon, because a correct Chinese definition of weapon was given by one of the students. Second, the results reflected that some students tried to express their ideas in Chinese without the ability to give accurate words in English; though, the students were asked to make sentences in full English. Thus, Chinese was allowed in making sentences in the main study.

Stage 2: Pretest

The present study was carried out in the second semester of the participants'

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school year. The participants unexpectedly received a pretest to evaluate their initial vocabulary knowledge of the target words before the experiment began. The results of the pretest indicated that few students had word knowledge of 1-2 target words. Following after the pretests, a filler activity of simple word association was implemented in order to keep the participants from generating any memory traces of the words. The teacher read a list of words and the participants wrote down their first association on a piece of paper on a given blank paper sheet.

Stage 3: treatment session

One day after the pretest, the experiment got started. All the participants were informed of the purpose of enhancing the vocabulary knowledge through the exercises in the booklets, but not previously informed of the following posttest. Each participant were issued a mini-dictionary and a randomly-assigned practice booklet of 36 versions. Subsequently, the participants were required to practice the whole target words in three conditions of exercises in the practice booklets. Moreover, time on task was taken into consideration in the study. Thus, the participants were also asked to write down how much time they spent on each exercise condition. All the participants worked on the practice booklets

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independently for 35 minutes.

Stage 4: Posttest

Immediately after the teacher collected mini-dictionaries and practice booklets, the participants were asked to take the unannounced posttest to track their word retention. The posttest was identical to the pretest. It was used to examine the participants' vocabulary knowledge development after the experiment, and to investigate the effects of vocabulary exercises on gains and retention.

Data Analysis

In this study, the data collected from pretest to posttest were analyzed quantitatively. The software Statistical Package for the Social Science (SPSS) was used to analyze the data. Besides, the significance levels were set at .05 for tests.

To answer Research Question One, descriptive statistics was calculated for mean scores and standard deviation of the pretest and the posttest. They provided an overview of the data distribution. Then, a dependent-samples *t*-test was applied to see whether significant differences existed between exercise conditions. If so, then a paired samples *t*-test was implemented to examine how three exercise conditions

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differed from each other and to decide which condition exerted the strongest influence on word acquisition and retention.

Additionally, to answer Research Questions Two, Three and Four, the data was analyzed to focus on word retention of high and low English achievers within each exercise condition and among the three exercise conditions. A paired samples *t*-test and a dependent-samples *t*-test were performed respectively.

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CHAPTER 4

RESULTS

This chapter displays the results of the quantitative analysis of the exercise data. It contains four sections corresponding to the four research questions addressed in Chapter Two. The first section includes the answers to the first research question — Is there any difference in word retention among the one fill-in-the-blank group, three fill-in-the-blank exercise group and original sentence writing group? The second section reports the answers to the second question — What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of low and high English achievers? The third section involves with the answers to the third question — What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of junior high school and senior high school learners? The fourth section presents the answers to the fourth question —What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of learners across gender?

Results of Means in Different Exercise Conditions

The statistical analysis results of the mean scores of the pretest and posttest are shown in Table 4.1, Table 4.2 and Table 4.3. A paired-samples *t*-test was used to

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compare the retention effects of three exercise conditions. In general, the all conditions showed a significant effect on word retention. In Table 4.1, the mean score of Condition 1 (one set of fill-in-the-blank exercises) displayed a raise from 0.319 to 2.625 with a p-value smaller than 0.05 ($p = 0.000$) and 95% confidence interval (C. I.) of 1.759 ~ 3.213 without covering 0. That is, the effect of fill-in-the-blank exercise is significant. Similarly, the mean scores of Condition 2 (three set of fill-in-the-blank exercises) increased from 0.125 to 3.639 with a p-value 0 and 95% C. I. value of 2.649 ~ 4.379 (see Table 4.2); the mean scores of Condition 3, from 0.167 to 3.542 with a p-value 0 and 95% C. I. value of 2.531 ~ 4.219 (see Table 4.3). Thus, the word retention effects of these two conditions were corroborated as significant, too. That is, three exercise conditions significantly improved the participants' vocabulary knowledge and retention.

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Table 4.1 Mean Comparison of VKS of Condition 1 in the Pretest and Posttest

	Number	Mean	S.D.	Standard Error Mean	95% C. I. of Mean		t	DF	p
					Lower	Upper			
Pre-test	72	0.319	0.512	0.365	1.759	3.213	6.817	71	0.000*
Post-test	72	2.625	3.308	0.434	2.649	4.379			

*P<.05

Table 4.2 Mean Comparison of VKS of Condition 2 in the Pretest and Posttest

	Number	Mean	S.D.	Standard Error Mean	95% C. I. of Mean		t	DF	p
					Lower	Upper			
Pre-test	72	0.125	0.442	0.365	1.759	3.213	8.100	71	0.000*
Post-test	72	3.639	3.854	0.434	2.649	4.379			

*P<.05

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Table 4.3 Mean Comparison of VKS of Condition 3 in the Pretest and Posttest

	Number	Mean	S.D.	Standard Error Mean	95% C. I. of Mean		t	DF	p
					Lower	Upper			
Pre-test	72	0.167	0.531	0.365	1.759	3.213	7.969	71	0.000*
Post-test	72	3.542	3.764	0.434	2.649	4.379			

*P<.05

Moreover, in order to compare the effectiveness of three conditions, the gain scores were compared and the results were shown in Figure 4.1. The gain score of Condition 2 (mean = 3.514) was the highest, followed by Condition 3 (mean =3.375) and Condition 1 (mean = 2.486). Furthermore, a statistical test was conducted and shown in, for comparing the effects among three conditions. As can be seen, the significance existed between Conditions 1 and 2 (p= 0.006; 95% C. I. = -1.744 ~-0.311) as well as between Conditions 1 and 3 (p= 0.035; 95% C. I. = -1.715 ~-0.063). However, no significant difference was discovered between Conditions 2 and 3 (p= 0.699, 95% C. I. = -0.574 ~0.851) In a word, the experiment results provided more evidences that Conditions 2 and 3 were more effective than Condition 1.

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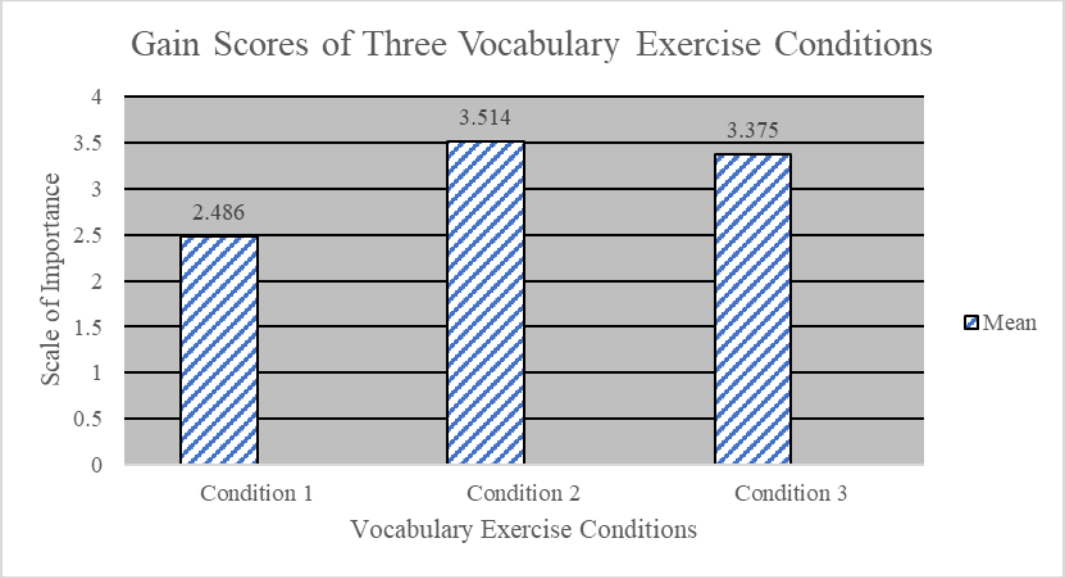

Figure 4.1 Gain Scores of Three Exercise Conditions on Vocabulary Retention

Table 4.4 Gain Score Comparisons of VKS of Three Exercise Conditions

Pair (Gains)	Mean	S.D.	Standard Error Mean	95% C.I. of Mean		t	DF	p
				Lower	Upper			
C1- C2	-1.028	3.049	0.359	-1.744	-0.311	-2.860	71	0.006*
C1- C3	-0.889	3.515	0.414	-1.715	-0.063	-2.146	71	0.035*
C2- C3	0.139	3.032	0.357	-0.574	0.851	0.389	71	0.699

*P<.05

Results of Means of VKS for Low and High English Achievers

To answer Research Question 2, this section compared the score gains between

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the low and high English achievers within three exercise conditions individually. As mentioned in Chapter 3, the participants were divided into two groups, high English achiever group (HG) and low English achiever group (LG), depending on whether or not they passed the elementary level of GEPT. In this study, the HG was composed of 6 high achievers and the LG consisted of 66 low achievers. As shown in Table 4.5 and Table 4.6, the HG was composed of six high achievers and the LG consisted of sixty-six low achievers. As for the HG, the results of the retention effects for three conditions are displayed in Table 4.5. The participants of the HG made significant progress. The gains were 7.667, 9.500 and 9.667, and the p-values were 0.007, 0.000 and 0.000 in Conditions 1, 2 and 3 respectively. As for the LG, the results are shown in Table 4.6. Like the HG's results, all the exercise conditions had a significant positive effect on the participant to retain the target words. However, the gains were lower than those of the HG while the LG scored 2.015, 2.970 and 2.803 with p-values 0.000, 0.000 and 0.000. By comparing the results of the HG and LG, it can be found that the LG (p= 0.000) performed word retention effect of Condition 1 more significantly than the HG (p = 0.007) although the gain of the HG is far bigger than that of the LG. The results were obtained for the different sample sizes. Because the sample size of LG is up to 66, which is much more than that of HG (n = 6), the evidence of effects on word retention provided by LG is more remarkable than by the

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HG. In conclusion, three written vocabulary exercises successfully contributed to great vocabulary retention for low and high English achievers.

Table 4.5 Gain Scores of VKS of High Achiever Group in Three Exercise Conditions

Exercise	Number	Mean	S.D.	Standard Error Mean	95% C. I. of Mean Lower	95% C. I. of Mean Upper	t	p
Condition 1	6	7.667	4.22	1.726	3.231	12.103	4.443	0.007*
Condition 2	6	9.500	2.42	0.992	6.951	12.049	9.580	0.000*
Condition 3	6	9.667	2.87	1.174	6.649	12.684	8.235	0.000*

*P<.005

Table 4.6 Gain Scores of VKS of Low Achiever Group in Three Exercise Conditions

Exercise	Number	Mean	S.D.	Standard Error Mean	95% C. I. of Mean Lower	95% C. I. of Mean Upper	t	p
Condition 1	66	2.015	2.52	0.311	1.394	2.636	6.479	0.000*
Condition 2	66	2.970	3.27	0.403	2.164	3.775	7.363	0.000*
Condition 3	66	2.803	3.08	0.379	2.046	3.560	7.395	0.000*

*P<.005

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Results between and within Low and High English Achiever Groups

Table 4.7 presents the comparison of the score gains of the LG and HG. The results were achieved significant differences because of score gains (HG – LG), p-value and 95% C. I. In Conditions 1, 2 and 3, the score gains were 5.652, 6.530 and 6.864 respectively with all p-values approaching 0 and 95% C. I. not covering 0. That is, the word retention of the HG was significantly better than that of the LG in all conditions. Figure 4.2 clearly shows the score gains of the HG were obviously higher than that of LG in all three exercise conditions.

Table 4.7 Gain Score Comparisons of VKS of Three Exercise Conditions between LG and HG

			Standard	95% C.I. of Mean				
Exercise	**Pair**	**Mean**	**Error Mean**	**Lower**	**Upper**	**t**	**DF**	***P***
Condition 1	High - Low	5.652	1.145	-7.934	-3.369	-4.938	70	0.000*
Condition 2	High - Low	6.530	1.375	-9.272	-3.789	-4.751	70	0.000*
Condition 3	High - Low	6.864	1.307	-9.471	-4.257	-5.251	70	0.000*

*P < 0.05

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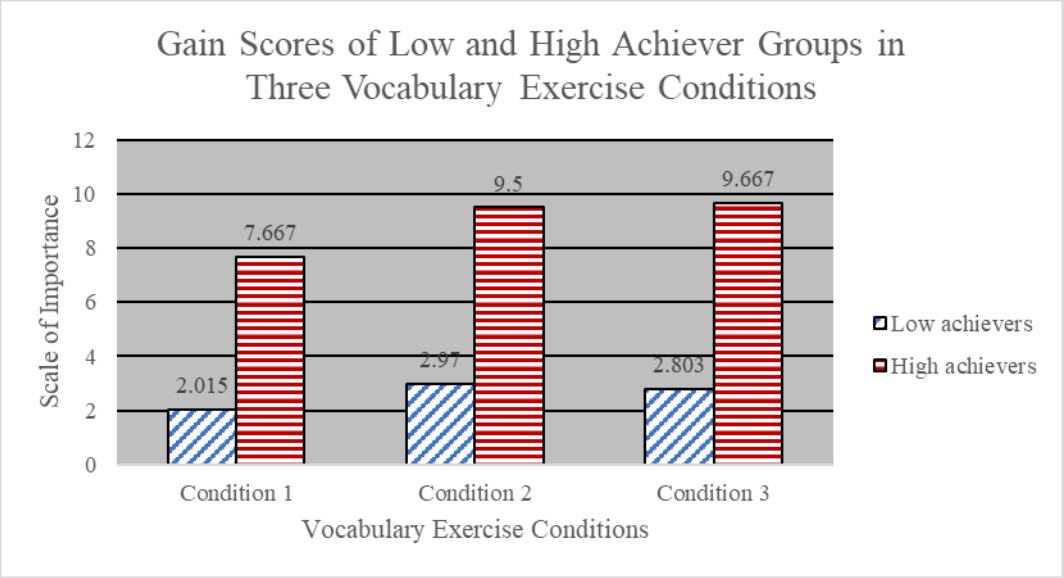

Figure 4.2 Gain Score Comparisons between LG and HG in Three Exercise Conditions

Furthermore, the score gains among different exercise conditions were compared for the LG and HG respectively. For the LG, the score gain of Condition 2 exceeded those of Conditions 3 and 1 by 0.167 and 0.995, respectively. There was a significant difference only between Conditions 2 and 1 (see Table 4.8). As a result, it was suggested that Condition 2 facilitate the development of word retention of the LG instead of Condition 1. Meanwhile, in the HG, the participants had the comparable score gains in three conditions (see Table 4.9) although there was not any significant difference. This could be due to the small sample size. There were only 6 participants in HG, and few data could not provide a sufficient evidence to identify the difference between the three conditions. Nevertheless, the comparisons of the score gains could

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be given for direct reference. The highest score gain was in Condition 3 (G = 9.667), followed by Condition 2 (G = 9.5) and Condition 1 (G = 7.667). Thus, it could be concluded that Conditions 3 and 2 worked better than Condition 1. However, more data were required for validation. Additionally, an overview of the trend of score gains for LG and HG was illustrated in Figure 4.3.

Table 4.8 Gain Score Comparisons of VKS of Three Exercise Conditions within Low Achiever Group

Pair (Gains)	Mean	S.D.	Standard Error Mean	95% C.I. of Mean		t	DF	p
				Lower	Upper			
C1- C2	-0.955	2.709	0.333	-1.620	-0.289	-2.863	65	0.006*
C1- C3	-0.788	3.275	0.403	-1.593	0.017	-1.955	65	0.055
C2- C3	0.167	3.111	0.383	-0.598	0.931	0.435	65	0.665

*P<.05

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Table 4.9 Gain Score comparisons of VKS of Three Exercise Conditions within High Achiever Group

Pair (Gains)	Mean	S.D.	Standard Error Mean	95% C.I. of Mean Lower	95% C.I. of Mean Upper	t	DF	p
C1- C2	-1.833	5.981	2.442	-8.110	4.443	-0.751	5	0.487
C1- C3	-2.000	5.865	2.394	-8.155	4.155	-0.835	5	0.442
C2- C3	-0.167	2.137	0.872	-2.409	2.076	-0.191	5	0.856

*P<.05

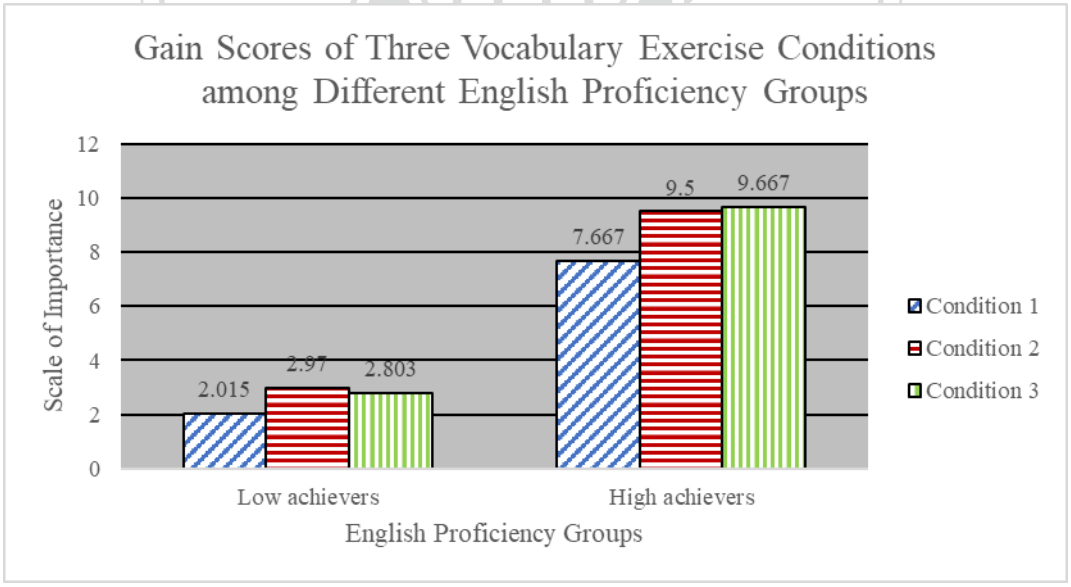

Figure 4.3 Gain Score Comparisons of Three Exercise Conditions in LG and HG

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Results of Means of VKS for Different Age Groups

The section compared the score gains between the Junior group and Senior groups in three exercise conditions individually. The results were shown in Table 4.10 and Table 4.11. In this study, both the Junior and Senior groups were composed of 36 participants. For the Junior Group, all the conditions performed the significant effects on vocabulary retention. In average, the Junior Group earned the most gain of 2.472 in Condition 3, then the more gain of 2.22 in Condition 2 and the least gain of 1.722 in Condition 1. Each of the score gain contained a p-value of 0 and 95% C. I. not covering 0. Thus, three conditions had a positive effect on vocabulary retention of the Junior Group. For the Senior group, the participants also performed pretty well in three conditions. The mean scores increased in Condition 1 (mean = 3.250), Condition 2 (mean = 4.806) and Condition 3 (mean =4.278). Each of the score gains was corroborated as significant while p-values and 95% C. I. reached the level of significance. Thus, there is evidence that the three conditions showed positive effects on vocabulary retention of the Junior Group, and even more on that of the Senior Group. The comparison between the Junior and Senior groups would be made and discussed more in the later section.

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Table 4.10 Gain Scores of VKS of Three Exercise Conditions within Junior Group

Exercise	Number	Mean	S.D.	Standard Error Mean	95% C.I. of Mean Lower	95% C.I. of Mean Upper	t	p
Condition 1	36	1.722	2.237	0.373	0.965	2.479	4.618	0.000*
Condition 2	36	2.222	2.695	0.449	1.310	3.134	4.947	0.000*
Condition 3	36	2.472	2.981	0.497	1.464	3.481	4.976	0.000*

*P<.005

Table 4.11 Gain Scores of VKS of Three Exercise Conditions within Senior Group

Exercise	Number	Mean	S.D.	Standard Error Mean	95% C. I. of Mean Lower	95% C. I. of Mean Upper	t	p
Condition 1	36	3.250	3.636	0.606	2.020	4.480	5.363	0.000*
Condition 2	36	4.806	4.098	0.683	3.419	6.192	7.037	0.000*
Condition 3	36	4.278	3.954	0.659	2.940	5.616	6.491	0.000*

*P<.005

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Results between and within Junior Group and Senior Group

Being compared and computed, the score gains of the Junior and Senior groups are clearly shown in Table 4.12, where the difference of score gains between the two groups (Junior – Senior), p-value and 95% C. I. were applied. The results showed a statistical significance with the gains of -1.528 in Condition 1, -2.583 in Condition 2 and -1.806 in Condition 3. Besides, the data reached a significant level while each *p*-value was smaller than 0.05 in Condition 1 (p= 0.035), Condition 2 (p= 0.002) and Condition 3 (p= 0.032), and 95% C. I. did not contain 0. It appears that the Senior group showed its superiority over the Junior group in three conditions. Figure 4.4 clearly shows different progress between the two groups in three conditions, indicating the higher score gains in the Senior group and lower ones in the Junior group.

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Table 4.12 Gain Score Comparisons of VKS of Three Exercise Conditions between Junior Group and Senior Group

Exercise	Pair	Mean	Standard Error Mean	95% C. I. of Mean Lower	Upper	t	DF	P
E1	Junior-Senior	-1.528	0.712	-2.947	-0.109	-2.147	70	0.035*
E2	Junior-Senior	-2.583	0.817	-4.214	-0.953	-3.160	70	0.002*
E3	Junior-Senior	-1.806	0.825	-3.452	-0.160	-2.188	70	0.032*

*P<0.05

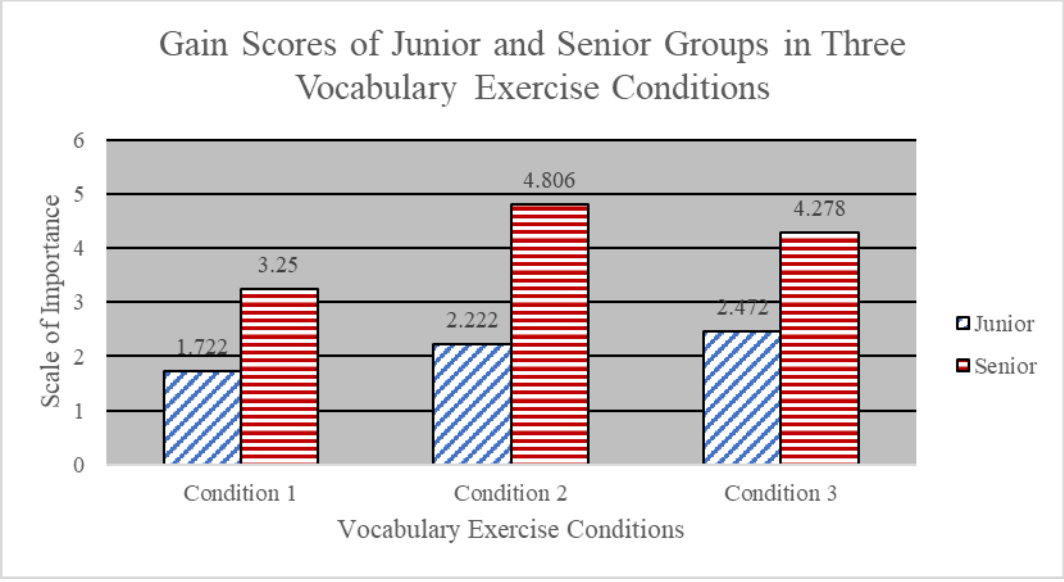

Figure 4.4 Gain Score Comparison between Junior Group and Senior Group in Three Exercise Conditions

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Furthermore, the score gains among the exercise conditions were compared for the Junior and Senior groups respectively. For the Junior group, there is no significant difference in three conditions (see Table 4.13), indicating that none of the conditions showed the superiority in retaining words for the Junior group. For the Senior group, as presented in Table 4.14, the score gains of Condition 2 exceeded those of Conditions 3 and 1 by 0.528 and 1.556 respectively, among which a significance was found only between Conditions 2 and 1 (p = 0.025, 95% C. I. = -2.900 ~ -0.211). That is, Condition 2 conspicuously helped the Senior group have more word gains than Condition 1 did. Additionally, an overview of the trends of score gains in Junior and Senior groups was illustrated in Figure 4.5, indicating the ranking of Conditions 3, 2 and 1 in the Junior group and Conditions 2, 3 and 1 in the Senior group.

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Table 4.13 Gain Score Comparisons of VKS of Three Exercise Conditions within Junior Group

Pair (Gains)	Mean	S.D.	Standard Error Mean	95% C. I. of Mean Lower	95% C. I. of Mean Upper	t	DF	*p*
C1- C2	-0.500	1.577	0.263	-1.033	0.033	-1.903	35	0.065
C1- C3	-0.750	2.970	0.495	-1.755	0.255	-1.515	35	0.139
C2- C3	-0.250	2.523	0.420	-1.104	0.604	-0.595	35	0.556

*P<.05

Table 4.14 Gain Score Comparisons of VKS of Three Exercise Conditions within Senior Group

Pair (Gains)	Mean	S.D.	Standard Error Mean	95% C. I. of Mean Lower	95% C. I. of Mean Upper	t	DF	*p*
C1- C2	-1.556	3.975	0.662	-2.900	-0.211	-2.348	35	0.025*
C1- C3	-1.028	4.025	0.671	-2.390	0.334	-1.532	35	0.134
C2- C3	0.528	3.460	0.577	-0.643	1.698	0.915	35	0.366

*P<.05

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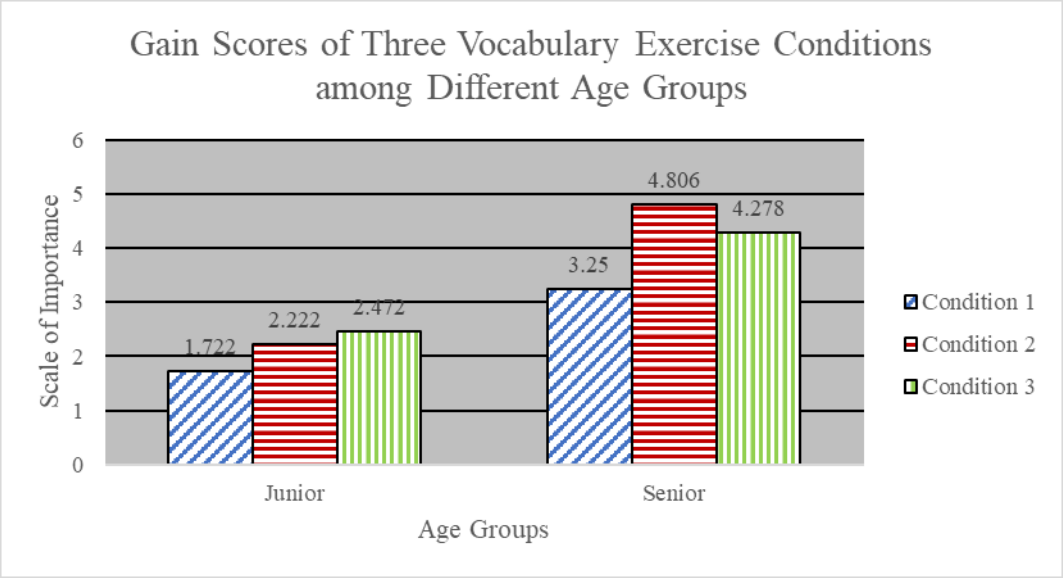

Figure 4.5 Gain Scores Comparison of Three Exercise Conditions in Junior Group

Results of Means of VKS across Genders

This section compared the score gains from both genders. The distinction among three conditions for the Male and Female groups was analyzed. In this study, the Male and Female groups were composed of 47 and 25 participants respectively. In Table 4.15, the results showed that the Male group retrieved the most target words in Condition 3 (mean = 2.830), more words in Condition 2 (mean = 2.596) and the least words in Condition 1 (mean = 1.915). Of all the conditions, the data contained positive results with a significant difference of a p-value and a 95% C.I. value since p-values were all listed 0.000 and 95% C. I. did not cover 0. Thus, three conditions had a positive effect of word retention on the Male group. As for the Female group, the participants made a progress in three conditions (see Table 4.16). They made the

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highest score gain of 5.240 in Condition 2, followed by 4.400 in Condition 3, and 3.560 in Condition 1. The score gains each reached a positive significant level with a p-value of 0 and 95% C. I. not covering 0. The comparisons between Male and Female groups would be discussed in the later section.

Table 4.15 Gain Scores of VKS of Three Exercise Conditions within Male Group

Exercise	Number	Mean	S.D.	Standard Error Mean	95% C. I. of Mean		t	p
					Lower	Upper		
Condition 1	47	1.915	2.636	0.385	1.141	2.689	4.980	0.000*
Condition 2	47	2.596	2.795	0.408	1.775	3.416	6.367	0.000*
Condition 3	47	2.830	3.185	0.465	1.895	3.765	6.091	0.000*

*P<.005

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Table 4.16 Gain Scores of VKS of Three Exercise Conditions within Female Group

Exercise	Number	Mean	S.D.	Standard Error Mean	95% C. I. of Mean		t	p
					Lower	Upper		
Condition 1	25	3.560	3.630	0.726	2.062	5.058	4.904	0.000*
Condition 2	25	5.240	4.512	0.902	3.378	7.102	5.807	0.000*
Condition 3	25	4.400	4.133	0.827	2.694	6.106	5.323	0.000*

*P<.005

Results between and within Male Group and Female Group

Table 4.17 presents the comparisons of score gains between the Male and Female groups. The difference of score gain (Male - Female), *p*-value and 95% C. I. were applied. The differences of score gains in three conditions were 1.645, 2.644 and 1.570 respectively. In terms of a significant level, the *p*-values of Condition 1(*p*= 0 .031) and Condition 2 (*p*= 0 .003) were smaller than 0.05, and 95% C. I. values of Conditions 1 and 2 did not cover 0. It appears that these two conditions facilitated the Female group to retain more words than the Male group. Besides, as for Condition 3, its *p*-value was 0.077 larger than 0.05 and its 95% C. I. value covered 0; thus, Condition 3 produced similar effects on the Male and Female groups. Figure 4.6, as a

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supplementary, illustrates a clear comparison between the Male and Female groups in all exercise conditions.

Table 4.17 Gain Score Comparisons of VKS of Three Exercise Conditions between Male Group and Female Group

Exercise	Pair	Mean	Standard Error Mean	95% C. I. of Mean		t	DF	*p*
				Lower	Upper			
Condition 1	Male-Female	-1.645	0.746	-3.133	-0.157	-2.205	70	0.031*
Condition 2	Male-Female	-2.644	0.862	-4.363	-0.926	-3.069	70	0.003*
Condition 3	Male-Female	-1.570	0.876	-3.317	0.177	-1.792	70	0.077

*P<0.05

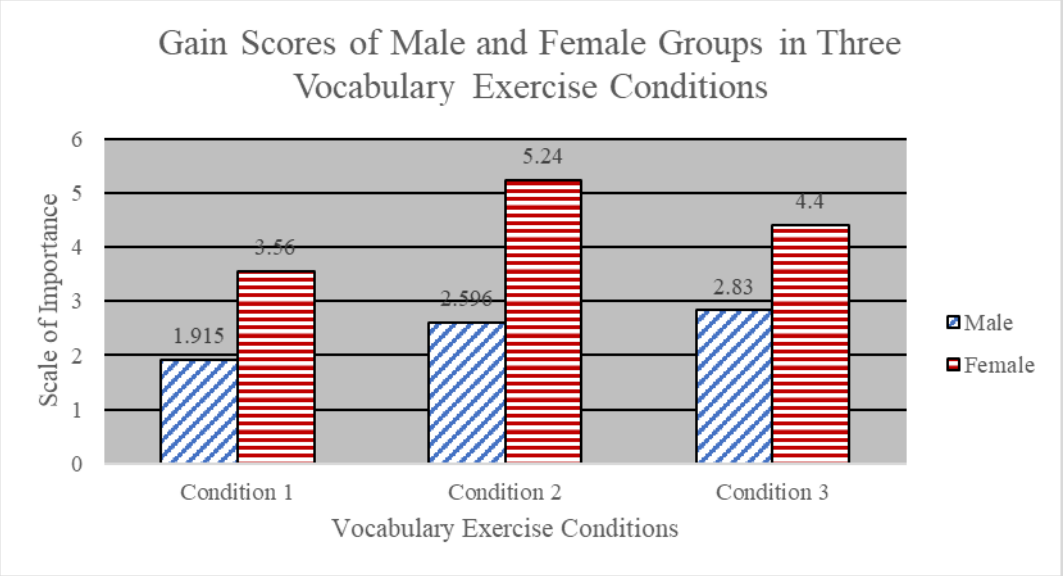

Figure 4.6 Gain Score Comparisons between Male Group and Female Group in Three Exercise Conditions

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Moreover, the score gains of each gender group were compared among three conditions. For the data about the Male group, there was no significant difference among them (see Table 4.18), where negative results existed in p-values and 95% C. I. values. For the Female group, as shown in Table 4.19, the score gain of Condition 2 exceeded those of Conditions 3 and 1 by 0.840. and 1.860, which made a significant difference only between Condition 2 and Condition 1 (p = 0.025, 95% C. I. = - 2.900 ~ - 0.211). As a result, the Female group was more influenced by the effect of Condition 2 than that of Condition 1.

Additionally, an overview of score gains was illustrated in Figure 4.7 to show the trends in three conditions for both gender groups. For the Male group, Condition 3 ranked the highest, and Conditions 2 and 1 followed subsequently. Different from the Male group, the Female group got the highest score gain in Condition 2, the higher one in Condition 3, and the lowest one in Condition 1.

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Table 4.18 Gain Score Comparisons of VKS of Three Exercise Conditions within Male Group

Pair (Gains)	Mean	S.D.	Standard Error Mean	95% C. I. of Mean Lower	Upper	t	DF	*p*
C1-C2	-0.681	2.712	0.396	-1.477	0.115	-1.721	46	0.092
C1-C3	-0.915	3.804	0.555	-2.032	0.202	-1.649	46	0.106
C2-C3	-0.234	2.696	0.393	-1.026	0.558	-0.595	46	0.555

*P<.05

Table 4.19 Gain Score Comparisons of VKS of Three Exercise Conditions within Female Group

Pair (Gains)	Mean	S.D.	Standard Error Mean	95% C. I. of Mean Lower	Upper	t	DF	*P*
C1-C2	-1.680	3.567	0.713	-3.153	-0.207	-2.355	24	0.027*
C1-C3	-0.840	2.968	0.594	-2.065	0.385	-1.415	24	0.170
C2-C3	0.840	3.532	0.706	-0.618	2.298	1.189	24	0.246

*P<.05

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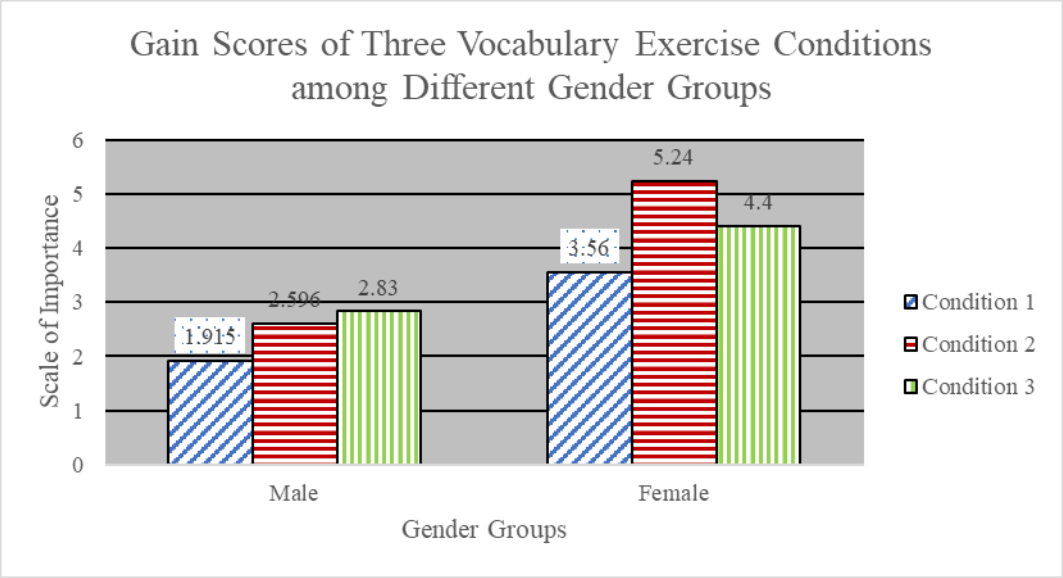

Figure 4.7 Gain Score Comparisons of Three Exercise Conditions in Male Group and Female Group

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CHAPTER 5

DISCUSSION

This chapter aims to examine the effects of three exercise conditions, one fill-in-the-blank, three sets of fill-in-the-blanks and writing original sentence (WOS), on word retention. It also explores the interaction between the exercises and learner factors, such as different English proficiency, ages and genders. It reports the discussion of the results of this study, compares the results with those of the previous studies and, then, explains possible reasons for the findings based on the related literature.

Research Question (1):

Is there any difference in word retention among the one fill-in-the-blank group, three fill-in-the-blank exercise group and writing original sentence group?

Effects of Three Exercise Conditions on Vocabulary Retention

The purpose of this section is to evaluate the effects of three exercise conditions on word retention. The result of the present study indicated that three conditions effectively facilitated the participants' word retention. The findings were in line with the previous findings (Dunmore, 1989; Hashemzadeh, 2012; Llach, 2009; Chih, Hsin & Hsien, 2011; Paribakht & Wesche, 1996) that there is a considerable need to

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involve different exercises in vocabulary learning because of effective word gains and retention. The findings also lent support to Min and Hsu's (2008) statement that exercises could help learners to understand the meaning and function of a particular lexical item and, subsequently, grow their vocabulary.

Moreover, in terms of effectiveness of three exercise conditions, the mean scores of Conditions 2 and 3 from the pretest to the posttest were significantly higher than that of Condition 1. Below are some possible explanations for the results. First, the results satisfied the Involvement Load Hypothesis (Hulstijn and Laufer, 2001), contending that different exercises render different degrees of involvement. With the involvement index, Condition 3 was rated as 5 with a strong need (2), a moderate search (1) and a strong evaluation (2) whereas Condition 1 was rated as 4 with a strong need (2), a moderate search (1) and a moderate evaluation (1). Thus, the effect of Condition 3 is better than Condition 1. It was not surprising that Condition 3 appeared to have led to a significantly better performance than Condition 1 while WOS is considered to induce more involvement than fill-in-the-blanks (Hulstijn and Laufer, 2001) since learners have to process target words by producing their own sentences. Once a learner generates the context, a stronger evaluation will be present than that in a teacher- or textbook-generated sentence in fill-in-the-blanks (Folse, 2006). Besides, these two exercises differed in the evaluation component. According

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to Kim (2008), the component of evaluation could facilitate vocabulary acquisition with a deeper level of word processing.

Second, the results of this study were in line with the claims of Folse (2006) and Lee & Hirsh (2012) that multiple encounters could improve vocabulary retention. In Conditions 1 and 2, the exercise type was essentially fill-in-the-blanks. Through Condition 2, students could keep encountering target words three times and have more significant lexical retention. In terms of involvement load, both conditions carried the identical involvement indexes of 4, demonstrating equal cognitive effort to process target words and increasing equal chances to learn and remember the words (Hulstijn and Laufer, 2001). However, Condition 1 provided one set of gap-filling exercise and made a modest improvement in word retention in that a single encounter with a new word is not insured for the likelihood of word acquisition (Hulstijn, Hollander & Greidanus, 1996). Condition 2 involved three sets of gap-filling exercises and increased triple chances to recall and remember words. Such multiple exposures to the target words offered repeated opportunities to set up the connection of form and meaning (Rott, 2004), and also entailed deeper learner involvement. Therefore, learners will have endurable memory for words in three sets of fill-in-the-blanks.

As for the results of Conditions 2 and 3, there was no significant differences

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between them. The findings illustrated that these two conditions had similar effects on word retention. The results were against the hypothesis of Involvement Load (Hulstijn and Laufer, 2001). Also, they were contradictory to Kim's study (2008) about evaluation components in the hypothesis, indicating that tasks with stronger evaluation will induce more learner involvement and more word learning. Condition 3 with strong evaluation and Condition 2 with moderate evaluation yielded similar results. In theory, WOS in Condition 3 could demonstrate more engagement with target words than three sets of fill-in-the-blanks in Condition 2. Nevertheless, through Condition 3, students would focus less on committing word meaning to memory but more on making sentences; that is, they were more involved in processing words' syntactic properties, like grammar (Kargozari & Ghaemi, 2011). This may lead to Condition 3's less influential effects on word retention and similar effects of the two conditions.

On the other hand, although Condition 2 contained less involvement index than Condition 3, multiple retrievals of the target words called for more learner involvement. The participants in the current study needed to meet and recycle target words in three different contexts in Condition 2; according to Thornbury (2002), recycling of target words would prevent learners from forgetting them. That is to say, better word retention can be attained efficiently as long as a word is met again in

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another different context (Thornbury, 2002). What's more, Henry and Andrew (2011) pointed out the value of retrieval practice in exercises. They contended that learners often demonstrate better retention if they retrieve words from memory for an equivalent amount of time, instead of studying the words alone. In a way, despite the similar amount of time spent on Conditions 2 and 3, three fill-in-the-blank exercises (Condition 2) may receive sufficient attention from the learners and showed the similar effect on word retention. Accordingly, the number of word retrievals may compensate for less involvement loads in an exercise.

To sum up, it could be inferred that vocabulary exercises could serve as an important means to improve word retention. Besides, in terms of exercise types, Conditions 2 and 3 could have similar effects on leaners' word retention. The findings corroborated the relationship about word retention, multiple retrievals and task involvement loads. These two features could help commit words in learners' memory so as to compensate for the inherent drawbacks of one completion exercise, which provided one encounter with and involved less learner engagement with target words.

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Research Question (2):

What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of low and high English achievers?

Effects of Exercise Conditions on Vocabulary Retention by Low and High English Achievers

In this section, the interaction between three conditions and different English achievers was discussed. The results of this study indicated that three conditions helped both groups of low English achievers (LG) and high English achievers (HG) to significantly retain target vocabulary. Besides, the conditions produced more remarkably beneficial effects in the HG than those in the LG. The findings corresponded to Hsu's (2005) study, which claimed that high English achievers significantly obtained more word retention than low English achievers when both groups received a follow-up exercise after reading.

The possible reasons for the better performance of the HG than that of the LG on word retention are shown as followed. First, low English achievers had less English knowledge to make a restricted variety of associations than high English achievers (Hulstijn, 1997); hence, there is limited effectiveness of exercises for low English

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achievers. Second, according to Pulido (2003), learners with higher English proficiency usually display a larger vocabulary. With their larger vocabulary, it is helpful for high English achievers to acquire new words (Peters et al., 2009). That is, they decode target words, associate the words with old ones and get ready to welcome the words into their mental lexicon (Ellis, 1997; Paribakht & Wesche, 1997). Moreover, Hulstijn (1997) proclaimed that intermediate learners can make association with new target words with more vocabulary knowledge. Hence, it is not surprising that greater English proficiency can cause better word retention under the manifestation of three exercise conditions.

As for the effects of three conditions in separate groups, the LG obtained the most word gains in Condition 2, the more in Condition 3 and the least in Condition 1 whereas the HG made the most progress in Condition 3, the more in Condition 2 and the least in Condition 1. The conditions showed their facilitative effects to different degrees in the HG and LG because different exercises may lead to different results for higher and lower English achievers (Webb & Kagimoto, 2009). Furthermore, the results of this study revealed that Condition 2 significantly showed its superiority over Condition 1 in the LG while no significant difference was found in the rest comparisons, which means the conditions possessed the equivalent effects. The plausible explanations for the significance in the LG may be shown as follows. First,

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Condition 1 contained less engagement with the target words. During one encounter, the acquisition of new word may lose out once learners fail to set up the initial word-meaning connection (Rott, 2004). Second, the LG had small and less vocabulary knowledge to deal with a new word. Thus, it is possible that three sets of fill-in-the-blanks help the LG to enhance word retention with many opportunities for retrieving lexical items from memory (Baddeley, 1990).

Research Question (3):

What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of junior high school and senior high school learners?

Effects of Exercise Conditions on Vocabulary Retention at Different Ages

In respect of the variable of age, the results indicated that the Junior and Senior groups both received the beneficial effects of exercises. Moreover, the results revealed that the Senior group demonstrated significantly higher gain scores than the Junior group. The retention of target words increased with the growing ages. Such situation could be explained by the following possible reasons. First, a variety of English curriculums are provided for students in senior high schools in Taiwan to strengthen

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four basic skills, listening, speaking, reading and writing. Accordingly, the senior high school students could possess various strategies for English vocabulary learning (Chang, 1990). Those strategies have a beneficial effect on it. Second, for learners of junior high school, they are exposed to about 1000 high-frequency words in the textbooks (Huang, 1997). The insufficiency leaves a gap in their subsequent English learning of senior high schools. The learners are offered diverse materials and tasks to develop a vocabulary size of 5000-7000 words once they enter senior high schools (Chen, 1999); the goal of senior high schools in Taiwan is set and the focus of the curriculum is directed toward effective gains in comprehensive language proficiency (Chang, 2010). Furthermore, students employ different strategies as they are at different age or different L2 learning stages (Oxford, 1990). The Senior group would utilize different learning strategies when they process words in different exercises. To conclude, with such enormous language exposures to English, it was not surprising that the Senior group gained more word retention than the Junior group in three exercise conditions.

Apart from the better performance of the Senior group, the present study also compared the effectiveness of conditions in each of the age groups. There is some evidence showing that Condition 2 is significantly more effective than Condition 1 in the Senior group and no significant difference was found in other comparisons. That

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is to say, Condition 2 helped the Senior group with better word gains than Condition 1 and other exercise conditions produced similar effects. Possible interpretation that attributed the significance of Condition 2 in the Senior group is the strategy performances demonstrated by the Senior participants while they learn vocabulary. The previous literature indicated that the word learning strategies used by senior high school students in Asia were mostly related to shallow strategies (Chen, 1998; Schimitt, 1997). When learners process a word, they focus their strategies on a superficial level. Besides, Yeh and Wang (2004) explored the most frequently used 10 vocabulary learning strategies by senior high school students in Taiwan. They found that students preferred the strategies that were easier to understand and easier to use. Their claims echoed the value of three sets of fill-in-the-blanks. According to Folse (2006), multiple retrievals of new words may enhance and facilitate more word retention even under a superficial completion exercise. As a result, Condition 2 exerted a more significant effect on the Senior group than Condition 1.

Contrary to the effective exercise of Condition 2 in the Senior group, the results showed the lack of significance in the Junior group. Similar gains took place under any conditions with less or more involvement indexes in the Junior group. The findings were inconsistent with the prediction of the Involvement Load hypothesis (Laufer & Hulstijn, 2001). In general, English writing is not taught at junior high level

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in Taiwan (Chung, 2007). The learners are provided with basic sentence writing, such as drills of sentence patterns or translation, in English textbooks or by senior high school teachers. The Junior group in this study employed easy and simple sentence patterns to establish the link of the meaning with the target words in Condition 3. For example, some participants tried to compose a sentence of 'I want a good breath,' with a target word of breath in it. Hence, the exercise of WOS seemed to be a difficult task for them. Besides, for the Junior group, three sets of fill-in-the-blanks in Condition 2 seemed easier to manipulate. The exercise contained three different contexts so that the Junior group could have more chances to retrieve words more times in Condition 2 than in Condition 3 to build up the links with the target words. Hence, this may lead to similar effects of Conditions 2 and 3.

Research Question (4):

What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of learners across gender?

Effects of Exercise Conditions on Vocabulary Retention across Genders

In respect of gender groups' word retention, the result of this study showed that three conditions improved both the Male and Female groups' performances and

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further demonstrated their significant effectiveness. Moreover, in terms of gender differences, the results also indicated that the Female group made more progress than the Male group in all exercise conditions. To be specific, significant differences were found in Conditions 1 and 2, not in Condition 3. The findings revealed that the type of fill-in-the-blanks benefited the Female group more than the Male group while WOS produced similar effects on both groups. The possible explanations of the Female group's superiority was illustrated as follows. First, female learners showed more commitment to school and interests in academic learning than their male counterparts (Gurian, 2001) while the Male group is reported to possess a natural asset of impulsivity to learning (King & Gurian, 2006). Second, Zoubir-Shaw and Oxford (1995) and Ehrman and Oxford (1989) pointed out the learning strategies of Males and Females are different. They found that male learners may be often stuck for an unknown word to learn whereas female learners would manage to use top-down strategies, like inferring or guessing from the context, for encounters with unfamiliar words. Also, Catalan (2003) stated, "The females total strategy usage percentages are higher than that of the males." Similarly, Lan and Oxford (2003) investigated EFL learners in Taiwan, and reported that girls employ strategies more frequently than boys do when they learn a language. Bacon (1992) echoed the aforementioned studies and contended that male learners would try to recognize every word, figure out its

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meaning and use less guessing or inferring from context in L2 strategy use. In the present study, many of the male participants obtained less scores in Condition 2 than Condition 3. It is possible that they got less involved in Condition 2; that is, they may read blank-filling sentences mindlessly, infer the wrong meaning from the context and be unable to supply the target words (Bacon, 1992). All in all, vocabulary exercises may benefit female learners more than male learners on word retention.

Beside gender differences found in the effectiveness of exercises, the interaction between conditions and learners' genders are explored in each group. The results showed that the Female group performed significantly more word retention in Condition 2 than in Condition 1 while no significance was discovered in the remaining comparisons. Some possible reasons for such results are as follows. Generally, girls are prone to be less impulsive and be able to sit still; thus, they can focus more on vocabulary tasks (King & Gurian, 2006). Besides, Zoubir-Shaw and Oxford (1995) claimed that female students employ compensation strategies so often that they may guess the meaning from the context in the fill-in-the-blanks. Consequently, the Female group in this study persisted with Condition 2, which offered retrievals of each target words in three different contexts, even when the repetition of the condition may bore them. As a result, multiple retrievals in Condition 2 may be more suitable and appropriate for the Female group to have better word

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retention than only one encounter with the target words in Condition 1.

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CHAPTER 6

CONCLUSION

This chapter presents four sections. The first part summarizes the major findings of the study based on the results and discussion. The second part proposed some pedagogical implications. The third part describes limitations of the study. The last part provides suggestions for further research.

Summary of the Major Findings

The present study was conducted to investigate the effects of vocabulary exercises on vocabulary retention of EFL learners of secondary school in Taiwan. One of the main goals is to explore how the students' vocabulary retention is influenced by fill-in-the-blank exercises and writing original sentences, which develop into three conditions of exercises. Besides, the interaction of exercises and three learner factors, English proficiency, ages and genders was also investigated. On the basis of the results and the discussions reported in the previous chapters, the summary of the four important findings in the present study are provided in accordance with the research questions.

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Question 1: Is there any difference in word retention among the one fill-in-the-blank group, three fill-in-the-blank exercise group and original sentence writing group?

According to the results of the present study, the participants had a significant increase on vocabulary retention in three exercise conditions. The findings indicated that Conditions 2 (three sets of fill-in-the-blank exercises) and 3 (one set of writing original sentences) produced more memory traces and performed better vocabulary retention than Condition 1 (one set of fill-in-the-blank exercise). However, there was no significant difference between Conditions 2 and 3. The findings partially accorded with Folse's (2006) claims, and partially satisfied the Involvement Load Hypothesis (Laufer and Hulstijn, 2001). As for the better retention of Conditions 2 and 3, it could be explained by the features of multiple retrievals in three fill-in-the-blank exercises and of higher involvement loads in making sentences. The findings proved both features to be effective ways of improving word retention.

Originally, in this study, it was assumed that Condition 2 could somewhat outperformed Condition 3. It turned out that Conditions 2 and 3 had similar effects on word retention. The results indicated insignificant results between Conditions 2 and 3, revealing that whether multiple retrievals or involvement loads may not dominate each other for vocabulary retention. About the superiority of these two exercise

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features over each other, further research is needed to clarify their effects on vocabulary retention.

Question 2: What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of low and high English achievers?

Among the three conditions, both of the low-achievers and high-achievers made significant progress in word retention. The exercises could substantially facilitate the participants of these groups to obtain more target words. Besides, an independent-samples *t*-test was utilized to analyze the mean scores of low-achievers and high-achievers. The results revealed the significant differences between both groups. The HG scored significantly higher than the LG. That is, the significant progress of vocabulary retention was conditional upon the increase of English proficiency. What's more, there was a significant difference in the LG between Conditions 1 and 2. That is, for low-achievers, multiple retrievals in three sets of gap-filling exercises was found a more significantly important factor for word retention. On the other hand, for the HG, there was a lack of statistically significant results among three conditions. The size of the participants of the HG might be another possible explanation for the results.

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Question 3: What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of junior high school and senior high school learners?

Evidence obtained demonstrated that both age groups made significant progress in vocabulary retention in three conditions. Besides, the results indicated that the Senior group appeared to produce more memory traces than the Junior group. Older learners are well able to link previous experiences with the new ones through vocabulary exercises. That is, compared between the age groups, the word retention of three conditions tended to increase with age. Moreover, the respective results of the Junior and Senior groups suggested that the Senior group performed significantly better word retention in three sets of fill-in-the-blank exercises. The reason might be the feature of multiple retrievals. On the other hand, there was not any significant differences in the results of the Junior group, which pointed out similar effects of exercises on word retention.

Question 4: What is the effect of the three conditions, one fill-in-the-blank, three fill-in-the-blanks and WOS, on word retention of learners across gender?

The results of the current study revealed that three conditions demonstrated significant effectiveness on word retention of both gender groups. Additionally, the

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Female group performed better word retention in Conditions 1 and 2 than the Male group did. What's more, with the respective results of gender groups, the findings suggested that the Female group was more significantly influenced by the effect of Condition 2 than that of Condition 1. It is revealed that the feature of multiple retrievals in three sets of gap-filling exercises produced more salutary effects on the Female group.

Pedagogical Implication

The major findings based on the present study provide some pedagogical implications for secondary English teachers in Taiwan. First, vocabulary exercises can be utilized to remarkably benefit the participants' vocabulary retention. Nation (2001) and Cevik (2007) supported that exercises is an effective way to obtain and retain vocabulary. In light of this, teachers are thus encouraged to provide more vocabulary exercises for learners to enhance their vocabulary retention efficiently; learners are pushed to keep learning vocabulary after class through assigned exercises. In particular, Conditions 2 and 3, respectively involving the features of multiple retrievals and the involvement load, can significantly contribute to more word retention than Condition 1. While Swanborn and de Glopper's (1999) pointed out that learning vocabulary involves a cumulative and incremental process, three sets of

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fill-in-the-blanks provide a process for repeated encounters with target words, and WOS provides another for learners' higher involvements in words. Hence, teachers are also encouraged to offer more exercises of three fill-in-the-blanks and WOS. Besides, textbook publishers and online English tutoring programs in Taiwan may provide more of these two types for students to practice target vocabulary if we want to strengthen students' vocabulary retention more efficaciously and effectively. Moreover, in terms of time, Condition 2 is more efficient than Condition 3. For students, three sets of fill-in-the-blanks are easier and more time-saving than WOS since learners do not spare time or effort for collocation, word forms, syntax, etc. For teachers, it is more effective to assign tasks for vocabulary memorization because checking and grading is easier and time-saving.

Second, both the low and high English achievers can benefit much from these three exercises; exercises are thus recommended for the low and high English achievers. That is, teachers should put more emphasis on exercises to aid a class comprised of diverse English proficiency. Moreover, high English achievers benefit more than low English achievers from exercises in that the more English competence and confidence EFL students have, the more likely they are to take advantage of vocabulary exercises. Hence, teachers in an English talented class are also encouraged to provide exercises to aid high achievers. On the other hand, for low English

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achievers, they have significantly more facilitative retention effects in Condition 2 than in Condition 1. Thus, low English achievers are suggested to have more than one opportunity to practice target words and enhance their word retention through three fill-in-the-blanks. Consequently, teachers may improve low English achievers' word gains and retention if materials of three sets of fill-in-the-blank exercise can be produced and provided.

Third, as for the age factor, both junior and senior high school students have shown significant improvement of retention in three conditions of the exercises. Moreover, senior high school students obtain more vocabulary retention than junior high school students through exercises. Particularly, Condition 2 is suggested to be a better choice for senior high students than one fill-in-the-blank exercise is. In sum, teachers of secondary schools are encouraged to provide these exercises for learners to promote their vocabulary gains and retention. And by providing three fill-in-the-blanks, the exercises may help to promote senior high students' vocabulary retention.

Lastly, about different genders, both female and male students made significant improvement in word retention through three conditions of exercises. Besides, Conditions1 and 2 are more helpful for female learners than male ones. And between these two conditions, Condition 2 produces stronger effects on female learners.

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Therefore, three fill-in-the-blanks are recommended to teachers in charge of a class which comprises more girls than boys or girls only.

All in all, considering individuals' learning differences and needs, teachers of English language learners (ELLs) in Taiwan should put an emphasis on vocabulary exercises in that they are beneficial for EFL learners of different English proficiency, ages and genders to produce memory trace of target word.

Limitations of the Study

The findings of the present study showed highly positive results on the effects of vocabulary exercises. However, there are some limitations regarding this study. They should be mentioned so as to be hopefully avoided in future research.

First, the sample size of the present study was not big enough with seventy-two participants, as is often the situation in classroom-based research. The participants were further divided into several groups according to their proficiency, ages and gender. For example, the participants of the 6 high English achievers and 66 low English achievers were investigated. The age groups included 36 participants each in a senior high class and in a junior high class. The gender groups consisted of 47 male and 25 female participants. Compared to the 154 participants in the previous study of Folse (2006), the scope of the present study was too small to be representative. In

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addition, unbalanced distributions also existed in some groups. The statistical results could be based on a biased sample. For those reasons, the participants may perform differently owing to different grades or schools. The current study cannot confidently yield conclusive evidences.

Second, the present study only included one part of speech, nouns, to explore the effects of exercise conditions. Although the findings showed that exercises of fill-in-the-blanks and WOS significantly helped students' word retention, it could not ensure that other word classes would have the same beneficial effects resulting from exercises. Thus, the findings of this study may not be generalizable to other parts of speech.

Third, the limitation was related to the long-term word retention of exercises. This study was conducted to explore the effect of exercises immediately after the students completed three exercise conditions; the students' short-term retention was investigated. However, the findings would have been different if the students were invited to take a second posttest over a period of time. Consequently, it could not ensure that whether the results of the present study will keep constant after the interval for a post-test.

Lastly, there was no post-task interview with the participants to explore what they thought about three exercise conditions. The researcher could not know the

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responses and attitudes held by teenager students in Taiwan towards the exercises. For this reason, the conclusions of the study were drawn without a comprehensive interpretation of the results.

Suggestions for Future Research

Based on these limitations of the present study, some suggestions for future research are proposed as follows.

First of all, concerning the small size of the present study, it is recommended that futures studies expand their scopes for larger sample size for more valid data. Therefore, the results can be applied to the general population.

Second, different parts of speech such as verb and preposition should be considered in future studies so as to ensure the effects of vocabulary exercises can also be applied to other word classes.

Moreover, as for the long-term memory, it is suggested that one or two more delayed posttests be employed in order to further examine the effects of the exercises on long-term memory.

Last but not the least, the current study was a quantitative study that investigator only collected data from pretest to posttest. A follow-up interview with the participants can be provided in future research. In a way, more authentic information

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would be helpful for future researchers since they can interpret comprehensively the effects on word retention through different exercises. Besides, certain confounding factors may be discovered for further research.

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APPENDIX A

PRETEST AND POSTTEST

Class:_____

Number: _____

請參考範例，並完成測驗，看看你是否知道以下的英文單字。

1. 閱讀第一欄的英文單字，若你知道其單字意思，請寫出該單字的意義(中英皆可)，並用單字造句。
2. 若你不知道其單字意思，空白即可。

Word	*Meaning*(單字意思)	*Sentence*(造句)
student	**pupil / 學生**	**I am a student in this school.**
1. battle		
2. basketball		
3. breath		
4. burden		
5. face		
6. frame		
7. faith		
8. fate		
9. label		
10. ladder		
11. lawn		
12. lesson		
13. mercy		
14. mood		
15. music		
16. moral		
17. risk		
18. rain		
19. rod		
20. rumor		
21. whisper		
22. wisdom		
23. wreck		
24. water		

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APPENDIX B

MINI-DICTIONARY

◆ **battle** (n.) a fight between angry people:

1. A battle will make many people die.
2. There was a gun battle between police and bad persons.

◆ **breath** (n.) taking the air in and out of the body:

1. Stop for a minute and get your breath back.
2. Don't smoke and you will not have bad breath.

◆ **burden** (n.) something heavy or difficult and you need to take it:

1. An elephant can carry a heavy burden.
2. His sick wife has become a burden to him.

◆ faith (n.) a strong felling for his/her life:

1. I have faith in God.
2. Faith can move mountains.

◆ fate (n.) a power to make something happen and no one can stop it:

1. It is Joe's fate to die young.
2. Fate is not on his side. He doesn't nave what he wants.

◆ frame (n.) something to put pictures or paper in to show people:

1. Leo keeps a picture of her mother in a frame on the table.
2. Mr. Brown loves to take pictures. He puts many pictures in the frames on the

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wall.

◆ label (n.) a piece of paper on something to tell what the thing is:

1. The label on this computer says “Made in Taiwan”.
2. He looks at the labels on these boxes and finds his books.

◆ ladder (n.) a tool to climb a wall or on to get something high:

1. He is standing on a ladder picking apples.
2. I can’t touch you. Please go down a ladder.

◆ lawn (n.) a place of grass:

1. Let’s have out lunch outside on the lawn.
2. The house has a large lawn in front of it.

◆ mercy (n.) being nice and kind and not hurting people:

1. The king shows mercy to those bad people.
2. The hunters give no mercy in killing those birds.

◆ mood (n.) a person’s feeling:

1. Is the boss in a good mood today?
2. He is in no mood for seeing a movie.

◆ moral (n.) something about what is right and wrong:

1. He has no morals and will do anything for money.
2. Peter’s parents are proud of his morals. He always helps old people.

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◆ risk (n.) a dangerous chance that something may or may not happen:

1. There is much risk of rain and take your umbrella.

2. The police often need to take risk.

◆ rod (n.) a long thin thing(stick) :

1. The mother hit the child with a rod.

2. A lightning rod on a house will stop lightning to hit people.

◆ rumor (n.) a story that is or is not true but people talk about it:

1. Don’t listen to rumor.

2. There is a rumor going around that the factory is going to close down.

◆ whisper (n.) keep voice down because you don’t want anyone to hear you:

1. He spoke in a whisper.

2. Helen’s whisper answers John’s question. But he can’t hear it.

◆ wisdom (n.) something a person has and does things in a smart way:

1. He gave me some words of wisdom.

2. The books tells wisdom of the old people.

◆ wreck (n.) a thing hit in a very bad way:

1. Her bicycle is a wreck after a big stone comes down on it.

2. After the typhoon, the house becomes a wreck.

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APPENDIX C

CONDITION 1 (WORD GROUP A)

(開始時間: _____)

請從下列找出適當的單字，填入句子的空格，每字限用一次。

battle, faith, label, mercy, risk, wreck

1. Love is the _____ of this school. Everyone in the school is happy to love their partners, teacher and animals.
2. The ship turns out a _____ in the sea now because of the strong wind and waves.
3. It is a _____ for a 5-year-old boy to play with water in that river.
4. There is always a _____ between men and women. Sometimes men win, and sometimes women do.
5. The _____ of this skirt tells how to clean the skirt.

(結束時間: _____)

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APPENDIX D

CONDITION 1 (WORD GROUP B)

(開始時間: _____)

請從下列找出適當的單字，填入句子的空格，每字限用一次。

breath, fate, lawn, moral, rumor, whisper

1. Do you believe in _____? Some people don't. They think only people can make up their own life.
2. Mother talked to Father in a _____ when the baby is sleeping.
3. Don't trust the _____. Someone wants you to think that way. But it is not like that.
4. Brush your teeth, and you don't have bad _____.
5. Don't park your car on my _____. That is not a place for parking.

(結束時間: _____)

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APPENDIX E

CONDITION 1 (WORD GROUP C)

(開始時間: _____)

請從下列找出適當的單字，填入句子的空格，每字限用一次。

burden, frame, ladder, rod, wisdom

1. The teacher showed students a beautiful butterfly with a _____ around it.
2. Joe is a person of _____. He knows what to do with the problems.
3. The smart little boy used a _____ as a ruler to measure how long his hand is.
4. Amy does the homework for 2-3 hours every day. Too much homework is a _____ for her.
5. I don't want to climb a _____. It's seems that I may fall down anytime.

(結束時間: _____)

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APPENDIX F

CONDITION 2 (WORD GROUP A)

(開始時間: _____)

請從下列找出適當的單字，填入句子的空格，每字限用一次。

battle, faith, label, mercy, risk, wreck

1. Love is the _____ of this school. Everyone in the school is happy to love their partners, teacher and animals.
2. The ship turns out a _____ in the sea now because of the strong wind and waves.
3. It is a _____ for a 5-year-old boy to play with water in that river.
4. There is always a _____ between men and women. Sometimes men win, and sometimes women do.
5. The _____ of this skirt tells how to clean the skirt.

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請從下列找出適當的單字，填入句子的空格，每字限用一次。

battle, faith, label, mercy, risk, wreck

6. I have _____ with my doctor. What he does is always good for me.

7. Read the _____. It says the toy is only for children who are over 3 years old. You can't buy it for a baby.

8. The fire is burning down the house. The house will become a _____.

9. These two countries are friends. There is no _____ between them.

10. Don't go out with the person you know on-line. Think about the _____.

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請從下列找出適當的單字，填入句子的空格，每字限用一次。

battle, faith, label, mercy, risk, wreck

11. Do you see the _____ of Ed's car? Some bad young people hit it.

12. Watching TV all day may bring a _____ of becoming stupid.

13. Jim studies for 3-4 hours every day. He studies the homework with a strong _____.

14. A: Is it made in Taiwan?
    B: You may check the _____, and you will know where it is from.

15. No one wants _____. People want to have a safe and happy life.

(結束時間: _____)

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APPENDIX G

CONDITION 2 (WORD GROUP B)

(開始時間: _____)

請從下列找出適當的單字，填入句子的空格，每字限用一次。

breath, fate, lawn, moral, rumor, whisper

1. Do you believe in _____? Some people don't. They think only people can make up their own life.
2. Mother talked to Father in a _____ when the baby is sleeping.
3. Don't trust the _____. Someone wants you to think that way. But it is not like that.
4. Brush your teeth, and you don't have bad _____.
5. Don't park your car on my _____. That is not a place for parking.

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請從下列找出適當的單字，填入句子的空格，每字限用一次。

breath, fate, lawn, moral, rumor, whisper

6. It is their _____ that Dave and Beth know each other, get married and have a baby. No one can change it.

7. There are only _____s in the library because no one can talk loudly there.

8. It is a _____ that Bill is going to America and lives there, but he is not.

9. Don’t be so angry. Take a _____. You will feel that things are not so bad.

10. I need a person to help with the _____ in front of the house. The grass is too high.

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請從下列找出適當的單字，填入句子的空格，每字限用一次。

breath, fate, lawn, moral, rumor, whisper

11. Mary doesn't want the dog to hear her. She makes a _____ to call Tom.

12. Never tell a _____. Always say right things.

13. Bill is not lucky. He gets 100 in a math test because he studies hard every day. It's nothing about _____.

14. I like the _____ in the big park near your house. It has a mixture of grasses with flowers around.

15. There are too many people in the classroom. It's a little hot here. I need to go out for a _____ of air.

(結束時間: _____)

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APPENDIX H

CONDITION 2 (WORD GROUP C)

(開始時間: _____)

請從下列找出適當的單字，填入句子的空格，每字限用一次。

burden, frame, ladder, rod, wisdom

1. The teacher showed students a beautiful butterfly with a _____ around it.
2. Joe is a person of _____. He knows what to do with the problems.
3. The smart little boy used a _____ as a ruler to measure how long his hand is.
4. Amy does the homework for 2-3 hours every day. Too much homework is a _____ for her.
5. I don't want to climb a _____. It's seems that I may fall down anytime.

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請從下列找出適當的單字，填入句子的空格，每字限用一次。

burden, frame, ladder, rod, wisdom

6. The old woman looked at the picture in the _____. She missed her husband and cried every night.

7. “Silence is golden.” It is a _____ from old people. It tells us that sometimes no talking is important.

8. Let’s get a fishing _____ and go fishing.

9. Let’s go mountain climbing. Don’t bring any homework or books. They will be a _____ for you.

10. I need a _____ to climb and get the ball in the tree.

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請從下列找出適當的單字，填入句子的空格，每字限用一次。

burden, frame, ladder, rod, wisdom

11. The story is full of _____. It tells people to be smart, brave and happy when they meet things they don't like.

12. The teacher put some _____s in his hand and said, "The student who takes the long one will come out and sing a song."

13. Your story is on today's newspaper. Let's cut the story and buy a _____ to put it in.

14. Give me a _____ to climb. I want to touch the head of this 200-cm boy.

15. Alex's family is poor. Keeping a dog takes much money. It's a _____ for them.

(結束時間: _____)

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APPENDIX I

CONDITION 3 (WORD GROUP A)

(開始時間: _____)

請用提示的單字造句，以便讓老師瞭解你知道單字的意義。

範例: apple 正確: I eat an apple every day. 錯誤: I am an apple every day.

1. battle

_____

2. faith

_____

3. label

_____

4. risk

_____

5. wreck

_____

(結束時間: _____)

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APPENDIX J

CONDITION 3 (WORD GROUP B)

(開始時間: _____)

請用提示的單字造句，以便讓老師瞭解你知道單字的意義。

範例: apple 正確: I eat an apple every day. 錯誤: I am an apple every day.

1. breath

_____

2. fate

_____

3. lawn

_____

4. rumor

_____

5. whisper

_____

(結束時間: _____)

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APPENDIX K

CONDITION 3 (WORD GROUP C)

(開始時間: _____)

請用提示的單字造句，以便讓老師瞭解你知道單字的意義。

範例: apple 正確: I eat an apple every day. 錯誤: I am an apple every day.

1. burden

_____

2. frame

_____

3. ladder

_____

4. rod

_____

5. wisdom

_____

(結束時間: _____)

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APPENDIX L

COVER PAGE OF THE PRACTICE BOOKLET

單字練習本

請不要翻頁!

讀完此頁的說明，聽從老師的指示才開始作答!

請閱讀以下測驗作答的說明:

單字練習本 ---

(1) 共 5 頁。

(2) 三大題。(一次選填練習，三次選填練習，造句練習)

(3) 共 20 題填充題及 5 題造句。

注意事項:

1. 三大練習題，用來練習目標單字，以加強單字之熟練度。
2. 附有一本 mini-dictionary，列出所有單字的英文意義與例句。
3. 請填入你開始與完成每大題的時間。

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