

在閱讀課中使用例句進行字彙教學之時機及其成效研究

**The Effects of Using Vocabulary Example Sentences
at Different Timing in Reading Instruction
on Vocabulary Learning and Retention**

by

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CHINESE ABSTRACT

在閱讀課中使用例句進行字彙教學之時機及其成效研究

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摘要

當一篇文章裏的單字被介紹時，通常會伴隨著例句。例句的內容能提供關於單字的許多資訊，因此可增加單字學習效果。雖然已有些許研究探討提供例句對於單字學習的成效，目前並沒有，或是很少研究探究直接從文章中擷取例句對於單字學習及存留的成效。此外，即使將單字獨立於文章前後學習，或將單字整合於文章中學習都已證實對單字學習有良好的效果，很少研究直接比較這兩種方法對於字彙習得的成效。而且，大多數探討這兩種方法差異的研究只在單字獨立學習時提供例句，並沒有在單字整合於文章中學習時提供例句。

本研究比較兩種例句於文章前獨立教學及文章中整合教學之成效。2 個班共 73 位高職一年級學生參與此研究。本研究採用三種教學方法，包括教單字及遵循字典呈現形式的例句於文章教學之前、包括教單字及遵循字典呈現形式的例句於文章教學之中、以及教單字及從文章中擷取的例句於文章教學之前。這三種教法的成效將以立即的後測及兩個星期後的延遲後測檢視。此外，研究參與者將填寫一份問卷，以了解參與者對於學習例句、獨立單字及整合單字學習的態度。

研究結果顯示三種教學方法對於單字學習及存留都有良好的效用。在三種方法中，教單字及從文章中擷取的例句於文章教學之前對於字彙學習效果最好。然而，這三種方法對於字彙的存留成效並無顯著差異。關於獨立或整合單字教學，研究結果顯示這兩種方法並無顯著差異。問卷結果顯示研究參與者對於例句學習抱持正面的態度，他們認為例句能幫助他們記得單字及了解如何使用單字於句子之中。再者，在獨立或整合單字教學方面，研究參與者較喜歡在文章之前獨立單字教學。本研究提供例句學習成效的實驗證明，尤其是從文章中擷取例句對於單字學習及存留成效之證明。

關鍵字：例句、文章內容、字彙學習及存留、獨立單字教學、整合單字教學

**The Effects of Using Vocabulary Example Sentences
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ABSTRACT

When new vocabulary of a reading passage is introduced, an example sentence typically follows. It is believed that the context of the example sentence provides additional information about the word and hence facilitates learning. Some studies have been conducted to explore the effects of providing example sentences on vocabulary learning and retention. Nevertheless, few, if any, or no studies investigate the effectiveness of example sentences adapted directly from the reading text on vocabulary learning and retention. Moreover, despite the fact that both isolated and integrated vocabulary learning in reading has positive effects on vocabulary learning and retention, few studies have compared the effects of the two approaches on vocabulary acquisition. Additionally, most of the studies that explored the differences between the two approaches offered example sentences when isolated words were taught but they did not offer example sentences when vocabulary was introduced in the reading process.

The current study, conducted on two intact classes of 73 first-year students in a vocational high school in central Taiwan, compared two types of example sentences

taught before or during reading instruction. Three teaching approaches were employed, including teaching example sentences following the dictionary entry format before reading instruction, teaching example sentences following the dictionary entry format during reading instruction, and teaching example sentences adapted directly from the reading text before reading instruction. The effectiveness of the three teaching approaches was examined by immediate posttests and delayed posttests two weeks following the treatments. Furthermore, a questionnaire was administered to investigate participants' attitudes toward learning example sentences as well as isolated vocabulary learning before reading and integrated vocabulary learning during reading.

The results indicated that all of the three teaching approaches had positive effects on vocabulary learning and retention. Moreover, learning example sentences adapted from the reading text before reading was the most effective of the three for vocabulary learning. However, no significant difference existed among the three approaches on vocabulary retention. As for isolated vocabulary teaching prior to reading and integrated vocabulary teaching during reading, the results indicated no significance between the two approaches. The results of the questionnaire showed that the participants had positive attitudes toward learning example sentences as they believed example sentences helped them remember the target words and understand their usage in context. In addition, they preferred isolated vocabulary teaching to integrated vocabulary teaching. The study provides empirical

evidence for the effectiveness of learning example sentences, especially example sentences adapted directly from the reading passage on vocabulary learning and retention.

Key words: example sentences, reading text, vocabulary learning and retention, isolated vocabulary teaching, integrated vocabulary teaching

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	I
CHINESE ABSTRACT	III
ABSTRACT	V
TABLE OF CONTENTS	VIII
LIST OF TABLES	XI
LIST OF FIGURES	XIII
CHAPTER ONE INTRODUCTION	1
1.1 Background of the Study.....	2
1.2 Statement of the Problems	5
1.3 Purpose of the Study	7
1.4 Research Questions	8
1.5 Definition of Terms	9
1.6 Significance of the Study	10
CHAPTER TWO REVIEW OF THE LITERATURE	13
2.1 Vocabulary Knowledge and Reading	13
2.2 Vocabulary Learning in Reading.....	16
2.2.1 Incidental Vocabulary Learning in Reading.....	16
2.2.2 Explicit Vocabulary Learning in Reading.....	21
2.2.3 Insolated and Integrated Vocabulary Learning in Reading	24
2.3 The Use of Reading Contexts and Example Sentences in Vocabulary Instruction	26
2.3.1 Schema Theory and Pre-reading Activities.....	27

2.3.2	Research on Using Reading Contexts in Vocabulary Teaching	28
2.3.3	Research on Using Example Sentences in Vocabulary Teaching	31
2.3.3.1	Related Studies Conducted outside Taiwan	32
2.3.3.2	Related Studies Conducted in Taiwan	35
2.4	Research Gap	37
 CHAPTER THREE METHOD		39
3.1	Participants	39
3.2	Research Design	40
3.2.1	Material for the Treatments	40
3.2.2	The Treatments	44
3.2.3	Measurement Instruments	49
3.3	Data Collection Procedures	58
3.4	Data Analysis Procedures	59
3.5	Descriptive Statistics and Reliability of Pretest A and B	62
 CHAPTER FOUR RESULTS AND DISCUSSION		65
4.1	The Reliability of the Research Instruments	65
4.2	Score Distribution	67
4.3	Test Performance	71
4.3.1	The Participants' Performance on each Treatment	71
4.3.2	Comparison of the Test Performance among the Three Treatments ..	76
4.4	Discussion and Comparison with Previous Studies	78
4.4.1	The Effects of the Three Teaching Approaches on Vocabulary Learning and Retention	80

4.4.2	The Participants' Attitudes toward Learning Example Sentences as well as Isolated and Integrated Vocabulary learning	89
CHAPTER FIVE	CONCLUSIONS	95
5.1	Summary of the Study and Major Findings	95
5.2	Pedagogical Implications	97
5.3	Limitations of the Study.....	99
5.4	Suggestions for Further Research	101
REFERENCES		103
APPENDICES		111
Appendix A	The Consent Form (Chinese Version)	111
Appendix B	The Consent Form (English Version)	112
Appendix C	Article <i>Music</i> and Its Vocabulary Lists	113
Appendix D	Article <i>Body's Limits</i> and Its Vocabulary Lists.....	118
Appendix E	Article <i>Work</i> and Its Vocabulary Lists	123
Appendix F	The Lesson Plan for the Three Treatments	127
Appendix G	Pretest A	133
Appendix H	Pretest B	135
Appendix I	The Immediate Posttests and Delayed Posttests.....	138
Appendix J	The Questionnaire (Chinese Version)	141
Appendix K	The Questionnaire (English Version).....	143

LIST OF TABLES

Table 2.1	Summary of the Studies on Incidental Vocabulary Learning in Reading.....	17
Table 2.2	Summary of the Studies on Explicit Vocabulary Learning in Reading	23
Table 2.3	Summary of the Studies on Isolated and Integrated Vocabulary Learning	26
Table 2.4	Summary of the Studies on Using Reading Contexts in Vocabulary Teaching	31
Table 2.5	Summary of the Studies Conducted outside Taiwan	34
Table 2.6	Summary of the Studies Conducted in Taiwan	37
Table 3.1	Results of the Analysis of the Three Articles	42
Table 3.2	The Target Words Selected from the Three Articles.....	43
Table 3.3	The Teaching Order of the Three Articles in the Treatments	49
Table 3.4	The Data Collection Procedure.....	58
Table 3.5	The Maximum Scores for the Tests of the Study	60
Table 3.6	The Data Analysis Procedures for the five Research Questions	61
Table 3.7	Descriptive Statistics and Reliability of Pretest A and B	62
Table 3.8	The Target Words Recognized by the Participants	63
Table 4.1	The Reliability of the Immediate Posttests and Delayed Posttests.....	66
Table 4.2	Frequency of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DB	68
Table 4.3	Frequency of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DD.....	69
Table 4.4	Frequency of the Pretest, Immediate Posttest and Delayed Posttest of Treatment AB	71
Table 4.5	Descriptive Statistics of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DB.....	72
Table 4.6	Descriptive Statistics of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DD	73

Table 4.7	Descriptive Statistics of the Pretest, Immediate Posttest and Delayed Posttest of Treatment AB.....	74
Table 4.8	Paired-Samples t-test Results of the Participants' Performances on Treatment DB	75
Table 4.9	Paired-Samples t-test Results of the Participants' Performances on Treatment DD.....	75
Table 4.10	Paired-Samples t-test Results of the Participants' Performances on Treatment AB	76
Table 4.11	One-way ANOVA of the Pretests of the Three Treatments	77
Table 4.12	One-way ANOVA of the Immediate Posttests of the Three Treatments	77
Table 4.13	Significant Mean Difference of the Immediate Posttests of the Three Treatments.....	78
Table 4.14	One-way ANOVA of the Delayed Posttests of the Three Treatments	78
Table 4.15	Summary of the Previous Studies and the Current Study on Explicit Vocabulary Teaching in Reading.....	82
Table 4.16	Summary of the Previous Studies and the Current Study on Example Sentences.....	84
Table 4.17	Summary of the Previous Studies and the Current Study on Different Example Sentence Contexts.....	89
Table 4.18	The Means of the Participants' Attitudes toward Learning Example Sentences.....	91
Table 4.19	The Means of the Participants' Attitudes toward Treatment DB and DD	92
Table 4.20	Paired-samples t-test Results of Participants' Attitudes on Treatment DB and DD.....	93

LIST OF FIGURES

Figure 3.1	The Time Allocation for the Three Treatments.....	45
Figure 3.2	The Teaching Steps for the Target Words	46
Figure 3.3	The Teaching Process of Treatment DB and AB	47
Figure 3.4	The Teaching Process of Treatment DD	48
Figure 3.5	The First Page of Pretest A	51
Figure 3.6	The First Page of Pretest B	53
Figure 3.7	The Posttest for article Music	55
Figure 3.8	The Questionnaire.....	57
Figure 4.1	The Score Distributions of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DB (N = 73)	67
Figure 4.2	The Score Distributions of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DD (N = 73).....	69
Figure 4.3	The Score Distributions of the Pretest, Immediate Posttest and Delayed Posttest of Treatment AB (N = 73)	70
Figure 4.4	The Means of the Immediate Posttests and Delayed Posttests	81
Figure 4.5	The Means of the Three Immediate Posttests and delayed posttests	85
Figure 4.6	The Means of the Participants' Attitudes toward Treatment DB and DD	94

CHAPTER ONE

INTRODUCTION

Vocabulary has been regarded as a fundamental and crucial part of successful language learning during the last two to three decades. Mastering vocabulary knowledge has been a goal most second language learners expect to achieve as well as a goal most language teachers make efforts to assist their students to reach. Researchers and teachers have noticed that L2 learners express concern that their insufficient vocabulary knowledge may hinder their L2 learning and communication (Kim, 2008; Laufer & Hulstijn, 2001; Nation, 2010; Read, 2009). Researchers agree that one of the major ways for learners to increase their vocabulary knowledge is through contexts, both paragraph reading contexts and single example sentence contexts. This study thus explores the effects of teaching single example sentence contexts at different timing in reading on vocabulary learning and retention.

This chapter starts with a description of the background of the study, which is followed by the statement of the problems, and the purpose of the study. Then the research questions and the definition of the key terms are presented. Lastly, the significance of the study is stated.

1.1 Background of the Study

Vocabulary plays an important part in language learning. Researchers argue that sufficient vocabulary is required to read well. However, learning vocabulary is not an easy task for second language learners. Taiwanese learners also have difficulty learning vocabulary as seen in the disparity between senior high school students who know about 1,969 word families and their vocational counterparts who know about 426 word families (Huang, 2004). Moreover, both are far from the 4,000 to 5,000 word families needed to cover 95% of authentic academic texts (Laufer & Ravenhorst-Kalovski, 2010). This deficiency in vocabulary knowledge becomes an obstacle for students to comprehend English texts and improve their overall English performance (Huang, 2004). Many students may thus lose their interest in studying English. Therefore, increasing vocabulary knowledge should be viewed as a point of emphasis for EFL learners and teachers in Taiwan.

With the few chances to be exposed to an English environment outside the class, gaining vocabulary from incidental learning is difficult for students in Taiwan, not to mention the low percentage of vocabulary acquired from incidental vocabulary learning in reading (Brown, Donkaewbua, & Waring, 2008; Daloglu & Ferrel, 2006; Nassaji, 2004; Nation & Waring, 2004; Pellicer-Sanchez & Schmitt, 2011; Takari & Waring, 2003; Vidal, 2010). Hence, explicit vocabulary teaching in class is vital for students to enhance their

vocabulary knowledge. Nevertheless, with a reading passage, sentence structures, and vocabulary included in a lesson unit, teachers may not spend much time instructing vocabulary considering a four- or five-hour English class a week. As a result, teachers have to adopt effective vocabulary teaching methods to help learners increase their vocabulary rapidly.

A substantial number of studies have been carried out to investigate the effectiveness of different teaching methods on vocabulary learning over the years. Among them, a few were conducted to explore the effects of example sentences on vocabulary learning and retention (Adams & File, 2010; Balenghizadeh & Shahry, 2001; Bush, 1999; Cheng & Good, 2010; Huang, 2003; Malik & Mohammad, 2011; Qian, 1996; Webb, 2007; Zaid, 2009; Zhang, 2009). Example sentences, which are usually presented with new words to be learned in high school English textbooks in Taiwan, are proved to be advantageous for vocabulary learning (Adams & File, 2010; Bush, 1999; Cheng & Good, 2010; Nation, 2005; Zaid, 2009; Zhang, 2009). In addition to the meaning and usage of a word being demonstrated through its example sentence, example sentences make vocabulary learning more interesting as mechanical repetitions of the target words may be avoided. With the positive effects of learning example sentences on vocabulary learning and retention, researchers suggest that example sentences be included in vocabulary teaching and learning (Baleghizadeh & Shahry, 2011; Nation, 2005; ; Webb, 2007; Zhang, 2009). As

Zhang stated in his study in 2009, example sentences should be seen as essential components in direct vocabulary teaching.

Different example sentence contexts also have various influences on vocabulary acquisition though only a handful of studies focus on the comparison of the contexts of example sentences. The two major studies (Cheng & Good, 2009; Huang, 2003) concerning example sentences conducted in Taiwan mainly focused on incidental vocabulary learning in reading as the example sentences were placed with either Chinese or English gloss. Both studies showed that example sentences helped learners in vocabulary learning and retention. Moreover, the experiments of the two studies were conducted with university and junior high school students respectively. More empirical research is needed to explore the influences of different example sentence contexts on explicit vocabulary teaching for EFL Taiwanese learners, especially on vocational high school learners, whose vocabulary knowledge lags greatly behind the threshold for adequate reading comprehension.

Most vocational high schools in Taiwan enroll students with lower academic achievement if their English ability is compared to senior high school students. With a vocabulary size fewer than 500 word families (Huang, 2004), it is of no wonder that many vocational high school students consider English a difficult subject for them to learn (Wu, 2009). With regard to the learning difficulties in English, most students deem

vocabulary as the biggest challenge in learning English (Wu, 2009). With such a lexical gap between the vocational high school students' ability and the vocabulary size needed for reading comprehension, enhancing vocabulary knowledge should be regarded as an immediate need for vocational high school students.

1.2 Statement of the Problems

While teaching vocabulary, teachers usually explain its L1 equivalent and English definition as well as the example sentences containing the new word. Most of the example sentences offered with the new words in English textbooks are not associated with the reading texts where the new words are used. However, the positive influences of reading context on learning new words have been recognized by researchers (Blachowicz et. al., 2006; Bush, 1999; Nation, 2005; Qian, 1996; Read, 2004; Schmitt, 2010; Venetis, 1999; Zaid, 2009). For example, in Venetis' study (1999), the participants were instructed to write down not only the target words in the notebook but also the sentences where the target words were embedded in the text. The results showed that this during reading vocabulary instruction was effective for vocabulary learning.

Although learning traditional example sentences provided by the teachers or in the textbooks were proven beneficial for vocabulary learning (Baleghizadeh & Shahry, 2011; Nation, 2005; Webb, 2007; Zhang, 2009), learning example sentences adapted directly

from the reading may serve as a preview for the reading passage, which offers learners beforehand knowledge about the reading text. With the advanced knowledge, learners may have more confidence while reading and are more willing to read the text. As a result, learners are able to comprehend the reading better. Furthermore, the second encounter of the same sentence with the target word in the reading may help them recall the meaning and the form of the word, which may lead to better vocabulary learning and retention. Studies investigating example sentences adapted directly from the reading text are limited. Therefore, further investigation focusing on the comparison between these two kinds of example sentences on vocabulary learning and retention is needed.

Moreover, to make vocabulary teaching more effective, the timing for vocabulary learning in reading is worth exploring. Vocabulary teaching prior to reading provides background knowledge of the reading text for learners. Pre-reading vocabulary activities focus learners' attention fully on vocabulary learning. Learners receive focused vocabulary input and may thus increase the effects on vocabulary learning and retention. However, spending a continuous period of time involving vocabulary learning may seem tedious and cause fatigue among learners. A possible solution is to explain new vocabulary during the reading process, which may not only prevent fatigue from happening but also help learners understand the meaning and usage of the target words from the context.

The positive effects of both isolated and integrated vocabulary learning from reading are demonstrated by many researchers (Adams & File, 2010; Cheng & Good, 2009; Fraser, 1999; Ko, 2005; Nation, 2001; Venetis, 1995). Nevertheless, few studies have been conducted to contrast the effects of the two approaches. As Spada and Lightbown (2008) pointed out in a review that there seemed no empirical studies comparing the effects of isolated and integrated vocabulary instruction in classroom settings.

1.3 Purpose of the Study

Based on the statement of the problems stated above, the purpose of the current study is to explore the effects of the two types of example sentences, i.e., example sentences following the dictionary entry format and example sentences adapted from the reading text on Taiwanese students' vocabulary learning and retention. Also, the target vocabulary with the example sentences was taught both before and during reading in the current study in order to compare the effects of isolated and integrated vocabulary teaching in reading. In addition, the study investigated students' attitudes toward the types of example sentences used and the timing of vocabulary learning in reading.

1.4 Research Questions

In view of the purpose of the study presented above, five research questions are raised in the current study. They are listed as follows.

1. Does learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction have significant effectiveness on vocabulary learning?
2. Does learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction have significant effectiveness on vocabulary retention?
3. Does a significant difference exist among learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction on vocabulary learning?

4. Does a significant difference exist among learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction on vocabulary retention?
5. What are the participants' attitudes toward using example sentences as well as isolated and integrated vocabulary learning?

1.5 Definition of Terms

Some key terms used in the study are defined in alphabetical order in this section to ensure the consistent use and understanding of them.

1. Attitudes toward using example sentences as well as isolated and integrated vocabulary teaching: These attitudes refer to the participants' positive and negative feelings about learning example sentences and learning vocabulary before or during reading. In this study, these attitudes were measured by a questionnaire with 24 5-point Likert-scale items (see Appendix J).
2. Example sentences: It refers to sentences which contain the target words and which are used to exemplify the usage of the target words (Huang, 2003). Two types of example sentences are used in the study, including the example sentences following

the dictionary entry format and the example sentences adapted directly from the reading text. (see Appendix C, D, and E).

3. Integrated vocabulary teaching: It refers to teaching vocabulary during the instruction of a reading passage (Adams & File, 2010). When a target word was taught in integrated teaching in the study, it would not be explained until it was met in the reading text.
4. Isolated vocabulary teaching: It refers to teaching vocabulary before and after the instruction of the reading passage (Adams & File, 2010). In the study, isolated vocabulary teaching was conducted prior to the introduction of the reading text.

1.6 Significance of the Study

The current study expects to make contributions to vocabulary teaching and learning by exploring the effects of using different example sentences as well as the timing of vocabulary instruction in reading. It is hoped that the research findings can offer some practical suggestions on teaching example sentences and the best timing for vocabulary teaching in a lesson for foreign language teachers. In addition to gaining a better understanding concerning the effectiveness of example sentences on vocabulary learning, the study also seeks to gain insight into students' attitudes toward learning example sentences through the questionnaire given after the treatments. It is also hoped that the

research findings may provide suggestions for the publishers of English textbooks, especially for vocational high school English textbook publishers. Last, hopefully, the study can inspire further research on investigating the effects of different vocabulary example sentences on foreign language learning and the best timing for vocabulary instruction in reading.

CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter is divided into four sections. First, the relationship between vocabulary knowledge and reading is examined. Second, incidental vocabulary learning in reading is discussed, which is followed by a discussion of explicit vocabulary activities in reading. The second section ends with an examination of isolated and integrated vocabulary learning in reading. Third, the theoretical background of incorporating vocabulary learning and reading text previewing activities before reading are presented, which is followed by the discussion on learning reading contexts and example sentences on vocabulary acquisition. Fourth, a clarification of the research gap among the studies is included at the end of the chapter.

2.1 Vocabulary Knowledge and Reading

Vocabulary knowledge has long been recognized as the prerequisite for successful reading. The relationship between vocabulary and reading comprehension has been one of the main focuses for research in language learning and teaching. Most researchers argue that better reading comprehension lies in increasing vocabulary coverage of the text (Balenghizadeh & Golbin, 2010; Grabe, Jiang, & Schmitt, 2011; Guo & Roehrig, 2011;

Hu & Nation, 2000; Laufer, 1992; Qian, 2002; Stahr, 2008). Some of the major studies on the relationship between vocabulary and reading are summarized below.

Over the years, numerous studies have been conducted to investigate the correlation between vocabulary size and reading comprehension. In the review of vocabulary size and reading, Laufer (1992) looked up the threshold of vocabulary size for reading comprehension in her study on 72 undergraduate students, which led to a conclusion of 3,000 word families for marginally acceptable reading comprehension (with a score above 56). Similarly, Stahr (2008) reported in his study on 88 low-level Danish students that 2,000 word families should be set as an important learning goal for low-level students. More generally applicable finding to language instructors was offered by Nation (2006) and Hu and Nation's study (2000). The former contended that 8,000 to 9,000 word families were needed for unassisted comprehension of reading text and the latter concluded that 98% vocabulary coverage was necessary for reading for pleasure.

Likewise, Balenghizadeh and Goblin (2010) explored the effects of vocabulary size on reading comprehension on 83 Iranian first-year university students. The study showed a significant correlation between vocabulary size and reading comprehension. The two researchers concluded that improving learners' vocabulary was imperative to overcome reading difficulties. Laufer and her colleagues (Laufer & Ravenhorst-Kalovski, 2010) in their study set in Israel with 745 participants in an academic college, supported that

vocabulary knowledge of 8,000 word families, or approximately 34, 660 individual words, helped learners get a score of 90 on reading comprehension test. The vocabulary knowledge of 8,000 word families may cover 98% of authentic academic texts while that of 4,000 to 5,000 word families covers 95%. The study conducted by Schmitt et al. (2011) on 661 intermediate to advanced learners verified the results of aforementioned studies that learners should be encouraged to reach 98% vocabulary coverage in reading. More importantly, the researchers demonstrated a relatively linear relationship between vocabulary size and reading comprehension. That is, the more vocabulary the learner knows, the better s/he can comprehend the reading text.

In addition to the large vocabulary size demanded for fluent reading, the influence of the depth of vocabulary knowledge on reading comprehension has been discussed by some researchers. The depth of knowledge includes various components, like pronunciation, spelling, meaning, register, frequency, morphological, syntactic, collocational properties (Qian, 1999). To assess the effects of breadth (vocabulary size) and depth of vocabulary knowledge on reading, Qian conducted two experiments in 1991 and 2002 respectively. Both studies implied that the depth of vocabulary knowledge was more important than or equally important as vocabulary size for reading comprehension. The study conducted by Rashidi and Khosravi (2010) also examined the role of depth and breadth of vocabulary knowledge in reading achievement of 71 Iranian EFL learners. The

results showed that both depth and breadth of vocabulary knowledge were strong predictors for learners' reading achievement.

2.2 Vocabulary Learning in Reading

As vocabulary knowledge is considered a critical factor for learners' comprehension of a reading text, mastering vocabulary should be seen as a crucial objective for EFL learners. This section starts with the two major issues of vocabulary learning through reading, incidental and explicit vocabulary learning in reading and ends with the discussion on isolated and integrated vocabulary teaching in reading.

2.2.1 Incidental Vocabulary Learning in Reading

Vocabulary learning from reading texts is considered incidental learning as learners' focus is on understanding the contexts instead of on learning vocabulary (Nation, 2010). A number of studies have been conducted to get a better understanding of incidental learning on extensive reading. Table 2.1 is the summary of some major previous studies on incidental vocabulary learning in reading. The table includes information of the studies' participants, treatment materials, vocabulary learning rates, and test types employed.

Table 2.1

Summary of the Studies on Incidental Vocabulary Learning in Reading

Studies	Participants	Materials read	Vocabulary gains	Test types
Day, Omura, & Hiramatsu (1991)	92 high school and 200 university EFL learners	a short story with 1,032 words	5.8 to 17.6%	Multiple-choice test
Cobb, Spada, & Zahar (2001)	144 male grade 7 EFL learners	a short story with 2,400 words	7.1%	Word-definition matching test
Clopper & Swanborn (2002)	226 grade 6 EFL learners	authentic Dutch text with 1,500 words	6 to 10%	Meaning translation test
Takari & Waring (2003)	15 intermediate level Japanese EFL learners	a graded reader with 400 different headwords	(1) 16 to 40% (2) 4% after three months	Word recognition test, multiple-choice test, and meaning translation test
Daloglu & Tekmen (2006)	99 Turkish EFL learners	a short story with 2,400 words	8%	Word-definition matching test
Brown, Donkaewbua, & Warning (2008)	35 Japanese EFL learners	a graded reader with about 5,500 words	(1) 15 to 46% (2) 3% after three months	Multiple-choice test and meaning translation test
Chen & Truscott (2010)	72 undergraduate EFL learners in Taiwan	13 passages; each about 300 words	(1) 15 to 60% (2) 10 to 50% after a week	Multiple-choice, dictation, translation, and sentence construction
Pellicer-Sanchez & Schmitt (2011)	20 Spanish advanced EFL learners	a novel with 67,000 words	14 to 43%	Word recognition, part of speech recognition, meaning recognition, and meaning recall

What can be first observed from Table 2.1 is a wide range of vocabulary learning rate, ranging from 5.8% to 60%. However, with further inspection, it can be found that in three out of the seven studies (Clopper & Swanborn, 2002; Cobb, Spada, & Zahar, 2001; Daloglu & Tekmen, 2006), the participants acquired fewer than 10% of the target words;

i.e., only one word was learned in ten words. As for the retention of the vocabulary learned incidentally from the reading, two of these studies reviewed (Brown, Donkaewbua, & Warning, 2008; Takari & Waring, 2003) showed an extremely low rate of retention of incidental vocabulary learning as only 1 out of 25 or 28 words was retained three months after the treatment. With such little vocabulary learned from incidental reading, it would be really difficult for learners to reach the threshold of 8,000 word families through reading.

The difficulties of inferring or guessing meaning of unknown words from reading can be explained by the types of tests employed in the studies. Among the types of the tests used in the studies, the tests of prompted meaning recognition, e.g., multiple-choice test (Brown, Donkaewbua, & Warning, 2008; Chen & Truscott, 2010; Day, Omura, & Hiramatsu, 1991; Pellicer-Sanchez & Schmitt, 2011; Takari & Waring, 2003), usually yield better results than the ones of unprompted meaning recall, e.g., translation (Brown, Donkaewbua, & Warning, 2008; Chen & Truscott, 2010; Takari & Waring, 2003). Take the study done by Brown, Warning and Donkaewbua (2008) as an example. In the immediate multiple-choice posttest, learners were able to remember 13 out of 28 target words, while they only gave correct translation to 4 out of the same 28 target words in immediate unprompted meaning translation posttest. Besides, although the participants performed much better on multiple-choice tests than translation tests, Hulstijn (1992)

pointed out that the retention of word meaning from incidental learning was low in comparison with intentional vocabulary learning.

The participants' relatively poor performance on translation tests proves that it is difficult for learners to infer correct meaning of the target words from reading. Successful inference of an unknown word may occur if the learners know 98% of the words in the reading passage (Nation, 2010). Furthermore, even if learners can infer the meaning of the unknown words correctly from the contexts, this does not guarantee that they can remember the word (Nation & Waring, 2004).

Another factor that draws researchers' attention on incidental vocabulary learning is frequency of word occurrence in the reading. There has been no conclusion on how many encounters of a word in reading is sufficient for learners to remember the word. Waring and Takari (2003) explored the effects of word occurrence on vocabulary learning. The study was set in Japan with 15 female participants of intermediate level proficiency in English. The two researchers concluded that even with a repetition of 18 times of a target word, there was only a 10 to 15% chance for the participants to remember the word after three months. Schmitt and Pellicer-Sanchez (2011) also concluded in their study on Spanish EFL advanced learners that more than ten repetitions were necessary for meaning recall of a new word. The study carried out in Taiwan (Chen & Truscott, 2010) also reported that in unprompted word recall test, when the target words were met by a reader

seven times in the text, 10% of them were remembered a week after the treatment. Moreover, the researchers compared the acquisition of non-lexicalized words (words whose concept could not be translated into Chinese easily or did not correspond to a fixed item in Chinese) with lexicalized words from reading and found that non-lexicalized words were harder for learners to remember and retain than lexicalized ones. The conclusion implied that for Taiwanese EFL learners, L1 lexicalization played an important role in incidental vocabulary learning through reading.

Schmitt and Pellicer-Sanchez (2011) also argued that the low rate of incidental vocabulary learning was unable to match the vocabulary acquired from explicit teaching though it helped consolidate the vocabulary knowledge of known words. As Nation pointed out in 2010, incidental vocabulary learning should be viewed as a complementary activity for explicit vocabulary teaching. As a high percentage of vocabulary coverage (95 to 98%) is a must to comprehend reading but only few words are acquired from incidental vocabulary learning and learners need frequent exposure to a target word to retain it in memory, explicit vocabulary teaching has been recommended to accelerate the building of L2 learners' vocabulary knowledge. Tekmen and Daloglu (2006) suggested in their study of 99 Turkish EFL learners that explicit instruction of vocabulary be implemented to help learners comprehend various reading materials.

2.2.2 Explicit Vocabulary Learning in Reading

In contrast to incidental vocabulary learning in reading, in which learners pay attention to understanding the reading passages, explicit vocabulary learning focuses the learners' attention on the words to be learned. Compared with incidental vocabulary learning, explicit vocabulary learning enables learners to raise their conscious awareness to the target words and process the words cognitively more deeply.

Numerous studies have explored the effects of explicit vocabulary learning in reading and proved that the approach is effective and efficient for vocabulary acquisition. For instance, Hulstijn and Laufer's study (2001) investigated the effects of vocabulary learning on the following three conditions: reading with marginal glosses, reading with a task asking learners to choose target words to fill in the blanks in the reading context, and reading with a task asking learners to write a composition including the target words. The results showed that participants' vocabulary learning and retention was much better for the two conditions, which have tasks focusing on target words explicitly. A similar study done by Kim in 2007 in the United States also proved that groups performing vocabulary activities after reading, including composition writing and sentence making with target words, performed far better than those reading only on vocabulary learning.

Likewise, in a study set in Saudi Arabia with 40 female college students as participants, Schmitt and Sonbal (2009) compared vocabulary learning in a reading only

condition with a reading followed by explicit vocabulary instruction condition. The researchers found that the latter led to better results on the three levels of vocabulary knowledge (form recall, meaning recall and meaning recognition). The study demonstrated explicit vocabulary teaching helped learners acquire deeper vocabulary knowledge as it contributed to the recall of the form as well as the meaning of the target words. As a result, the researchers concluded that it was worthwhile teaching vocabulary explicitly during reading. The study in Taiwan by Min (2008) also explored the role of explicit vocabulary learning in reading. The participants were two groups of high school male students. In the study, one group of the participants did narrow reading while the other group did activities on target words, including word definition match, translation, and sentence making, after reading. The results showed that reading plus explicit vocabulary activities was more effective than narrow reading on Taiwanese EFL high school learners' vocabulary learning and retention.

Another study exploring the differences between incidental learning through reading and incidental learning through reading accompanying explicit vocabulary learning activities was carried out in a university in China by Guo in 2010. In the study, the experimental group was asked to complete explicit exercises on vocabulary after reading. Similar to the findings of Schmitt and Sonbal's study, the results showed that a combination of incidental vocabulary learning and explicit vocabulary learning activities

had more positive effects on learners' vocabulary learning and retention than did incidental vocabulary learning alone. Also, the study found that the participants with bigger vocabulary size to begin with got much higher scores in incidental vocabulary learning, while initial vocabulary size did not play a key role on the receptive and productive vocabulary gains for the participants receiving explicit vocabulary exercises. The researcher concluded that explicit vocabulary learning benefited the learners with lower vocabulary size. Table 2.2 summarizes the studies presented in this section.

Table 2.2
Summary of the Studies on Explicit Vocabulary Learning in Reading

Studies	Participants	Explicit vocabulary learning	
		activities	Major findings
Hulstijn & Laufer (2001)	225 university EFL learners, with 97 in the Netherlands and 128 in Israel	Blank filling while reading the passage, and composition writing after reading	Vocabulary tasks requiring a deeper processing of the target words help learners learn and retain the words.
Kim (2007)	297 adult EFL learners in Korea	Composition writing and sentence making	Vocabulary learning tasks in reading helped learners acquire more target words.
Min (2008)	50 third-year senior high school male students in Taiwan	Word definition matching, translation, and sentence making after reading	Reading accompanying with vocabulary-enhancement activities were more effective than reading alone.
Schmitt & Sonbal (2009)	40 female university students in Saudi Arabia	Explicit instruction from the teacher after reading	Incidental learning supplemented with explicit instruction was more effective.
Guo (2010)	93 university students in China	Synonym, word-matching, blank filling, second-hand cloze, and translation after reading	Reading plus explicit vocabulary activities facilitated vocabulary learning.

2.2.3 Insolated and Integrated Vocabulary Learning in Reading

Besides incidental and explicit vocabulary learning, isolated and integrated vocabulary learning is another important topic for vocabulary learning in reading. Isolated vocabulary learning, which occurs before and after reading instruction, enables learners to focus primarily on vocabulary knowledge. Learners are allowed to pay full attention to the word forms, its definition, part of speech, and example sentences. Integrated vocabulary learning, on the contrary, happens during the reading. When words are learned in the process of reading, learners shift their focus from the reading text to the words to be learned.

It is clear that explicit vocabulary learning is more effective than incidental learning for vocabulary acquisition from the preceding section, where most studies include isolated vocabulary learning activities after reading. In addition to post-reading vocabulary learning, pre-teaching vocabulary before reading is commonly used to not only increase the readability of the reading text but also raise learner's awareness on the target words (Nation, 2010). The second encounter of the same word in the reading text serves as an opportunity for the learners to strengthen the knowledge of the word (Adams & File, 2010).

The positive effects of integrated vocabulary learning during reading are reported in many studies. The study conducted by Fraser (1999) in Canada on eight intermediate

level university students over five months concluded that the participants who inferred the meaning of an unknown word and then consulted the dictionary during the reading process were more likely to retain the word than the participants who ignored unknown words while reading. In Taiwan, Cheng and Good (2009) also proved that L1 gloss in reading text greatly improved the undergraduate participants' vocabulary learning and retention.

Despite the positive effects of integrated vocabulary learning, the following studies yield negative results. Adams and File (2010) employed a counterbalanced design to explore the effects of isolated and integrated vocabulary instruction on vocabulary learning and retention. In the study, all of the 20 participants were given two treatments. Participants received vocabulary instruction with example sentences before reading in one treatment. In the other treatment, the target words were taught in the reading context without example sentences. The researchers concluded that though there was no significant difference between the two approaches, isolated teaching tended to lead a higher rate of vocabulary learning than integrated instruction.

Another study regarding the comparison of isolated and integrated vocabulary was done by Venetis (1999) on 45 high school students in the United States. In the study, the participants were divided into two groups. One group learned the target words through isolated word lists prior to reading; the other group discussed the meaning of the words

when they were encountered in the reading text. The students were also asked to write down the words in the notebooks with the sentences the words appeared in. The results of the study showed there was no significant difference between the two vocabulary teaching methods. Both led to substantial vocabulary gains.

The studies comparing isolated and integrated vocabulary learning from reading yield different results. Table 2.3 summarizes the studies reported in this section.

Table 2.3
Summary of the Studies on Isolated and Integrated Vocabulary Learning

Studies	Treatments	Participants	Major findings
Fraser (1999)	Three lexical processing strategies (ignore, infer and consulting) were taught first. The participants were then asked to read texts.	8 ESL university learners in Canada	Inferring and dictionary consulting activities during reading lead to effective vocabulary learning.
Venetis (1999)	Isolated word lists before reading vs. integrated vocabulary learning in reading context	41 first-year high school students in the United States	No significant difference between the two approaches on vocabulary learning
Cheng & Good (2009)	L1 in-text gloss, L1 marginal gloss, and L1 gloss with example sentences	135 university EFL learners in Taiwan	L1 in-text gloss and L1 gloss with example sentence led to better vocabulary and retention.
Adams & File (2010)	Isolated vocabulary teaching with example sentences before reading vs. integrated vocabulary teaching without example sentences in reading	20 intermediate level adult learners in New Zealand	Isolated instruction benefited learners more on vocabulary learning and retention.

2.3 The Use of Reading Contexts and Example Sentences in Vocabulary Instruction

The research findings from the previous section demonstrate the importance of explicit vocabulary learning in reading. To teach vocabulary effectively, one of the major

issues raised by researchers and teachers is the use of contexts for vocabulary teaching.

The theoretical background for presenting vocabulary and previewing reading text for reading comprehension is presented first in this section, which is followed by the examination of the role paragraph contexts and example sentences played in vocabulary teaching and learning.

2.3.1 Schema Theory and Pre-reading Activities

Reading comprehension requires the interaction between a reader's background knowledge and new knowledge in the text according to Schema Theory (Ortony & Rumelhart, 1977). A schema is a hypothetical mental structure for representing generic concepts stored in memory (Ajideh, 2003, p.4). Learners have to activate appropriate schemata and relate them to the new information in the text to reach comprehension (Ajideh, 2003; Al-Issa, 2006; Caprell & Eisterhold, 1983; Landry, 2002; Li, Wang, & Wu, 2007; Mihara, 2011; Zhang, 2008). To achieve reading comprehension, two major types of schema are involved. Content schemata, the key to comprehension, refer to the background knowledge related to the content of the text. Formal schemata deal with the rhetorical structures and genres of the text. L2 teachers are recommended to provide students with schemata which students lack to assist them in comprehending the text (Ajideh, 2006; Li, Wang, & Wu, 2007; Maghsoudi, 2012; Mihara, 2011; Zhang, 2008).

By offering pre-reading activities, L2 teachers may help activate students' schemata for the reading task. For content schemata, vocabulary presentation before reading and previewing is suggested by researchers (Al-Issa, 2006; Ajideh, 2006; Li, Wang, & Wu, 2007; Mihara, 2011; Zhang, 2008). Presenting vocabulary right before reading helps lay the foundation for reading comprehension as the deficiency of vocabulary knowledge may prevent readers from activating relevant schemata for a reading text. As for previewing activities, such as previewing some sentences of the reading text, presenting a sentence structure, which the teacher thinks might be difficult for the students, they enable learners to obtain background knowledge of the content and make predictions accordingly. Therefore, with vocabulary learned and reading text previewed prior to reading, learners may comprehend the reading with relatively less effort. Thus, they may focus more attention on the target words. Moreover, the better a learner comprehends a reading text, the more easily the learner assigns meaning to the target words (Ur, 1996).

2.3.2 Research on Using Reading Contexts in Vocabulary Teaching

Learning a word should be regarded as a cumulative process (Nation, 2005, p. 47). A word should be met in different contexts, including single sentence contexts and reading passages containing the word so that the knowledge of the word would be built gradually. Nation (2005) suggested that while teaching vocabulary, teachers give example sentences

with the target word for students to know the meaning and proper usage of the word. For effective vocabulary teaching, various encounters of the words in contexts are necessary (Blachowicz et al., 2006). The importance of providing contexts for learners to facilitate vocabulary learning was also supported by Schmitt (2008), who argued that meeting a word in a series of contexts improved the quality of the vocabulary knowledge and helped learners retain the words in memory.

Several studies have been conducted to investigate the effects of providing reading contexts for vocabulary learning. The study conducted by Bush (1999) tried to determine the most effective approach for vocabulary learning among the three conditions: isolated word lists, reading contexts with target words, and a combination with both approaches. The researcher concluded that each of the three conditions yielded good results on vocabulary gains and there was no significant difference among the three conditions. Similarly, a study set in China by Qian (1996) compared the effects of contexts and word lists on vocabulary acquisition. Although the results showed that vocabulary learning from word lists was more effective than contextualized vocabulary learning, the researcher still suggested that both approaches be integrated in vocabulary teaching as contexts provide additional knowledge of the target words, such as linguistic and semantic knowledge, which the word lists failed to offer.

In the study conducted in the United States in 1999, Venetis discussed the target words with the participants in class when the target words were met in the reading and then the participants were instructed to write down the target words with the sentences in which they appeared on their notebooks. The study proved that integrated vocabulary teaching with reading instruction was as beneficial as teaching isolated word lists before reading. Likewise, the findings in the study conducted by Zaid (2009) revealed that a combination of both non-contextualized and contextualized vocabulary instructions improved learners' vocabulary knowledge significantly. Thus, the researcher strongly recommended that target words be presented with example sentences or reading contexts to let learners get a better understanding of the words and have a better chance to retain the words. A summary of the studies reviewed in this section is presented in Table 2.4

Table 2.4

Summary of the Studies on Using Reading Contexts in Vocabulary Teaching

Studies	Treatments	Participants	Major findings
Qian (1996)	Non-contextualized vocabulary learning with a word list vs. inferring the words from the reading text	63 first-year university students in China	Vocabulary learning by word lists was more effective than learning from reading text.
Bush (1999)	Isolated word lists, sentence contexts with target words, and a combination of both.	50 first- and second-year high school students in the United States	No significant difference of the three approaches on vocabulary learning
Venetis (1999)	Isolated word lists before reading vs. integrated vocabulary learning in reading context	41 first-year high school students in the United States	No significant difference between the two approaches on vocabulary learning
Zaid (2009)	Non-contextualized vocabulary learning with a word list vs. inferring words from contextual clues	34 college students in Saudi Arabia	Non-contextualized and contextualized vocabulary learning were recommended to be used together.

2.3.3 Research on Using Example Sentences in Vocabulary Teaching

The empirical research above demonstrates the positive effects of reading contexts on vocabulary learning. To help learners acquire more complete knowledge of the target words, teachers often offer example sentences, which serve as contexts for the target words, while instructing vocabulary. For effective vocabulary instruction, giving example sentences with the target words is recommended by numerous researchers (Adams & File, 2010; Bush, 1999; Cheng & Good, 2010; Nation, 2005; Zaid, 2009; Zhang, 2009). Example sentences contribute to learners' understanding the meaning of the target words. Also, learners understand better how to use the target word through reading the example sentences. As the focus of the current study is the application of example sentences in

vocabulary teaching, studies concerning example sentences outside and in Taiwan are discussed in more detail in the following sub-section.

2.3.3.1 Related Studies Conducted outside Taiwan

A couple of studies conducted outside Taiwan compared example sentences and L1 equivalents on vocabulary learning. Webb's study (2007) looked at the effectiveness of example sentences and word pairs on vocabulary learning in Japan. In one treatment of his study, the students learned target words with Japanese definition and example sentences, while the other group of students learned new words with Japanese definitions alone. No significant difference was found between the two treatments. Both treatments led to vocabulary gains. The researcher conducted another study on example sentences in the following year (Webb, 2008). This new study was conducted to examine whether the information the example sentences carried affected the meaning guessing and inferring of the target words. In his new study, one group of the participants learned target words with three more informative example sentences while the other group learned the target words with three less informative example sentences. The researcher stated that contexts had significant influence on gaining the meaning of the target words. More informative contexts helped learners understand better the target words. A similar study was carried out in Iran (Baleghizadeh & Shahry, 2011). Target words with three consecutive example

sentences and L1 equivalents were compared with target words with L1 equivalents alone in the study. The results showed that example sentences helped learners retain the target words and compose new sentences with them. The researchers concluded that the frequency of exposure to the target words since the three example sentences provide learners more frequent encounters with the target words and the sentence contexts contribute greatly to vocabulary learning and retention.

The influence of example sentences on direct vocabulary teaching was investigated by Zhang in China (2009). In the study, 58 English majors were divided into three groups. One group learned vocabulary without example sentences, another learned vocabulary with example sentences provided by the teacher, and the other group learned vocabulary with example sentences provided by the students themselves. The results showed that the two groups with example sentences performed better on vocabulary learning and retention. The researcher thus suggested that teachers offer example sentences, especially those close to students' daily experience, while teaching vocabulary.

The study in New Zealand (Adams & File, 2010) compared the effects of isolated vocabulary teaching with example sentences before reading and integrated vocabulary teaching during reading on vocabulary learning and retention. The conclusion from the study was that isolated teaching led to a higher rate of vocabulary gains though the differences between isolated and integrated teaching are not significant. The researchers

inferred from the results that isolated vocabulary teaching enabled learners to focus their attention on the target words to be learned and the second encounter of the target words in the reading helped them recall the previous instruction.

The above five studies explored the influences of example sentences on vocabulary learning conducted outside Taiwan. These studies are summarized in Table 2.5.

Table 2.5
Summary of the Studies Conducted outside Taiwan

Studies	Treatments	Participants	Major findings
Webb (2007)	Glossed sentences vs. word parts	84 first-year university EFL learners in Japan	No significant difference between the two treatments on vocabulary learning
Webb (2008)	Three more informative example sentences vs. three less effective ones	50 second-year university EFL learners in Japan	More informative example sentences helped learners understand the meaning of the words.
Zhang (2009)	Example sentences provided by the teacher, example sentences provided by the students, and without example sentences	58 second-year university EFL learners in China	Example sentences, especially those provided by the students, helped learners acquire vocabulary.
Adams & File (2010)	Isolated vocabulary teaching with example sentences before reading vs. integrated vocabulary teaching without example sentences in reading	20 intermediate level adult learners in New Zealand	Isolated instruction benefited learners more on vocabulary learning and retention.
Baleghizadeh & Shahry (2011)	Three consecutive example sentences with L1 equivalents vs. L1 equivalents alone	40 adult EFL learners in Iran	Consecutive example sentences led to successful vocabulary learning.

2.3.3.2 Related Studies Conducted in Taiwan

Two studies exploring gloss with example sentences on vocabulary learning were conducted in Taiwan (Huang, 2003; Cheng & Good, 2009). The effects of example sentences and vocabulary glosses on vocabulary acquisition and reading comprehension were investigated by Huang (2003) on 262 third-year junior high EFL learners. Among the three experimental groups of the study, one learned the vocabulary through reading a 300-word passage with Chinese gloss, another was given the reading text with English gloss, and the other read the text with English gloss and example sentences. All of the glosses were presented under the reading passage. The results indicated that English gloss with example sentences and Chinese gloss had more positive influences on vocabulary learning and reading comprehension. The researcher explained that example sentences enabled learners to verify the meaning of the target word, which they inferred from the English definition and the reading passage. With regard to the recall tests employed one and three weeks later after the treatments, none of the three experimental groups recall half of the target words. The researcher thus recommended that learners do some intentional vocabulary enhancement activities after the treatment. The results of a questionnaire given after the treatment revealed that students thought example sentences helped them learn the target words and comprehend the reading passage.

Another study concerning the glosses and example sentences on vocabulary gains and reading comprehension was done by Cheng and Good (2009). The three glossed conditions employed in the study were Chinese gloss with English example sentences presented in a separate page, Chinese in-text gloss, and Chinese marginal gloss. The results proved that the learners with Chinese in-text gloss, and Chinese gloss plus English example sentences performed much better than the group with Chinese marginal gloss on vocabulary learning and retention, which was measured by the two delayed tests a week and two weeks later respectively. While interpreting the results, the researchers inferred that Chinese gloss with example sentences presented in a separate page might serve as the pre-reading activities for learners to not only focus on noticing the form and understanding the meaning of the words but also gain some knowledge about the reading passage. As for reading comprehension, there was no significant difference among the three groups. While asked which type of gloss was the most helpful for learning new words, most participants chose Chinese gloss with example sentences.

Table 2.6 displays the summary of the two studies on example sentences conducted in Taiwan.

Table 2.6

Summary of the Studies Conducted in Taiwan

Studies	Treatments	Participants	Major findings
Huang (2003)	L1 gloss, L2 gloss, and L2 gloss with example sentences	262 third-year junior high EFL learners	L1 gloss alone and L2 gloss with example sentences helped learners better on vocabulary learning and reading comprehension.
Cheng & Good (2009)	L1 in-text gloss, L1 marginal gloss, and L1 gloss with example sentences	135 university EFL learners	L1 in-text gloss and L1 gloss with example sentence led to better vocabulary and retention.

2.4 Research Gap

Despite the fact that example sentences are proved beneficial for vocabulary learning in the previous section, only a few studies put emphasis on the comparison of different content of example sentences. Given the important role example sentences played in vocabulary learning, the effects of different example sentence contexts on vocabulary learning deserve further discussion. Furthermore, the studies conducted in Taiwan mainly focused on the comparison between Chinese or English gloss with or without example sentences. In view of the fact that reading texts help consolidate the meaning of vocabulary, the researcher of the current study takes a step further to compare the effects of example sentences adapted directly from the reading texts with example sentences following the dictionary entry format on vocabulary learning and retention. In addition, as the two studies concerning example sentences in Taiwan were done on university and junior high school students, vocational high school students are recruited as participants

for the current study to get a more complete picture about the effects of using example sentences on vocabulary learning for Taiwanese learners.

Furthermore, the studies exploring the differences between isolated and integrated vocabulary teaching in reading reviewed above did not offer example sentences in integrated teaching condition. To examine the better timing for vocabulary teaching in reading, the researcher of the current study investigates isolated and integrated vocabulary teaching with example sentences prior to and during reading.

CHAPTER THREE

METHOD

This chapter presents the method used to conduct the current study. The participants of the study are introduced first. This section is followed by the description of the research design, which includes material used in the treatments, the procedures for the treatments, and measurement instruments. Then, the data collection and data analysis procedures are presented. At last, the descriptive statistics and reliability of the pretests are described.

3.1 Participants

Two groups of first-year students (Class A and Class B) in a vocational high school in central Taiwan were recruited for the current study. Since the researcher was their English teacher, they were convenient samples. Students were from two intact classes to avoid disturbing their regular learning in school. Their average age was 17 years old. In general, they had studied English for nine years. It was their second semester in vocational high school. After the researcher explained the purpose and the procedures of the study to the 73 participants, all of them in the two classes, 34 students from Class A and 39 students from Class B, signed a Chinese consent form. A sample of the consent form can be found in Appendix A.

3.2 Research Design

To investigate the effects of using different example sentences to teach vocabulary at different timing in reading on participants' vocabulary learning performance and retention, the participants were taught vocabulary with the two types of example sentences, namely, example sentences following the dictionary entry format and example sentences adapted directly from the reading text. The vocabulary was taught before or during the instruction of the reading text. An immediate posttest and a delayed posttest were administered at the end of the treatments and two weeks later respectively to investigate the vocabulary learning performance and retention. The reading materials, treatments and instruments employed in the current study are analyzed further in this section.

3.2.1 Material for the Treatments

In an effort to select the appropriate reading texts for the current study, several reading articles with approximately 400 words had to be collected first. To examine the difficulty level and readability of the articles, all of them were analyzed by Flesch-Kincaid Level readability tests. The Flesch-Kincaid Level readability tests contain two tests, the Flesch Reading Ease, and the Flesch–Kincaid Grade Level. The former indicates if a reading material is easy or difficult to read. The higher score a reading material gets; the easier the material is. The latter yields a score indicating the suitable

grade level for the material. For example, an article with a score of 8 on the Flesch–Kincaid Grade Level means that the article is understandable for students in eighth grade level.

In addition to Flesch-Kincaid Level readability tests, all of the articles were analyzed by the VocabProfilers program (see Tom Cobb’s website <http://www.lex tutor.ca/vp/>). The program indicates the percentage of words belonging to 2,000 most frequently used words in the article and the lexical density of the article, which is the percentage of content words. An article with a high ratio of 2,000 words and a low ratio of lexical density is considered relatively easy to read.

After careful screening, three articles from *Active Skills for Reading, 2nd Edition* published by Christopher Wenger in 2007 were selected as reading materials for the current study (see Appendix C, D, and E). The three articles were entitled “*Where is That Music Coming From?*” (hereafter referred to as *Music*), “*Beyond the Body’s Limits*” (hereafter referred to as *Body’s Limits*), and “*Work Hard, Play Hard?*” (hereafter referred to as *Work*). The length of each article was about 400 words. With a score of 46 to 50 on Flesch Reading Ease, the analysis showed that the difficulty level of the three articles was intermediate. Also, they were suitable for the 10th graders of L1 readers with a score about 10 on the Flesch-kincaid Grade Level. Though the participants in this study were L2 learners, the researcher thought that the three articles would not be difficult for them

since instruction would be given in the treatments. As for the results of the analysis on the VocabProfilers program, 80 to 85% of the words in each of the three articles belonged to 2,000 frequency level. Moreover, the lexical density of each article was about 0.58. The results of the analysis above proved that the three articles were equivalent in difficulty and were suitable for learners of intermediate level of proficiency. Table 3.1 indicates the results of the analysis of the three articles employed in the study.

Table 3.1
Results of the Analysis of the Three Articles

	<i>Music</i>	<i>Body's Limits</i>	<i>Work</i>
Words	413	400	394
Flesch Reading Ease	49.90	50	46.20
Flesch-kincaid Grade Level	10.90	10.50	10.40
K1+K2*	80.05	82.43	85.82
Lexical density	0.59	0.56	0.59

Note. K1+K2 refer to words above 1,000 and 2,000 word level.

Twelve target words were then carefully chosen from each of the three articles, and there were 36 target words in total for the current study. The first criterion for selecting the words was that none of them belonged to the 1,200-word bank, which, according to the Ministry of Education of Taiwan, was the threshold for junior high school graduates. The second criterion was that the words above 2,000-word level would be selected first as they were probably unknown to the participants. In addition, the target words were

selected according to the ratio of 3 (noun) : 2 (verb) : 1 (adjective and adverb), as recommended for vocabulary research (Nation, 2010). Among the 36 target words, five (*currently, determination, population, combine, and rank*) were below the 2,000-word level. The five words were selected, as the researcher believed they were challenging for the participants, based on her teaching experience. The twelve target words of each article were presented in the same order as they appeared in the reading passage. Table 3.2 displays the target words selected from the three articles. These words were highlighted in the articles included in Appendix C, D, and E.

Table 3.2
The Target Words Selected from the Three Articles

No.	<i>Music</i>	<i>Body's Limits</i>	<i>Work</i>
1	adapt	resilient	hectic
2	appealing	demonstrate	conduct
3	rhythm	cope	commute
4	immigrant	surgery	chore
5	population	diagnose	pursue
6	genre	injection	well-being
7	previously	exhausting	survey
8	popularize	endurance	rank
9	combine	recover	cinema
10	lyrics	strain	evidence
11	fusion	determination	currently
12	diverse	achievement	pastime

When the participants received the reading packet, they could find a reading passage and a vocabulary list with part of speech, English definition, Chinese equivalents, and one of the two types of example sentences, i.e., example sentences following the dictionary entry format or example sentences adapted from the reading article (see the vocabulary lists in Appendix C, D, and E). The example sentences, designed by the researcher, had been reviewed by a native speaker and the thesis supervisor to ensure their quality. Take the first target word *adapt* in article *Music* for example. The word was presented in the following two ways for different treatments.

1. ***adapt*** (v.) *to fit, change, or modify to suit a new or different purpose*; 改編

*Few people know that the movie is **adapted** from a novel, which was popular in 1960s.*

(The example sentence was conceived by the researcher.)

2. ***adapt*** (v.) *to fit, change, or modify to suit a new or different purpose*; 改編

*For decades, musicians have **adapted** traditional musical styles to make them more*

appealing to average people. (The example sentence was adapted directly from article

Music.)

3.2.2 The Treatments

Three treatments were given in the participants' regular classes because the instructor was the researcher and their English teacher. Each treatment lasted for 70

minutes, in which 25 minutes were spent on the instruction of the 12 target words with example sentences, 35 minutes on the reading article and the last 10 minutes on the immediate posttest. Figure 3.1 presents the time allocation for the three treatments.

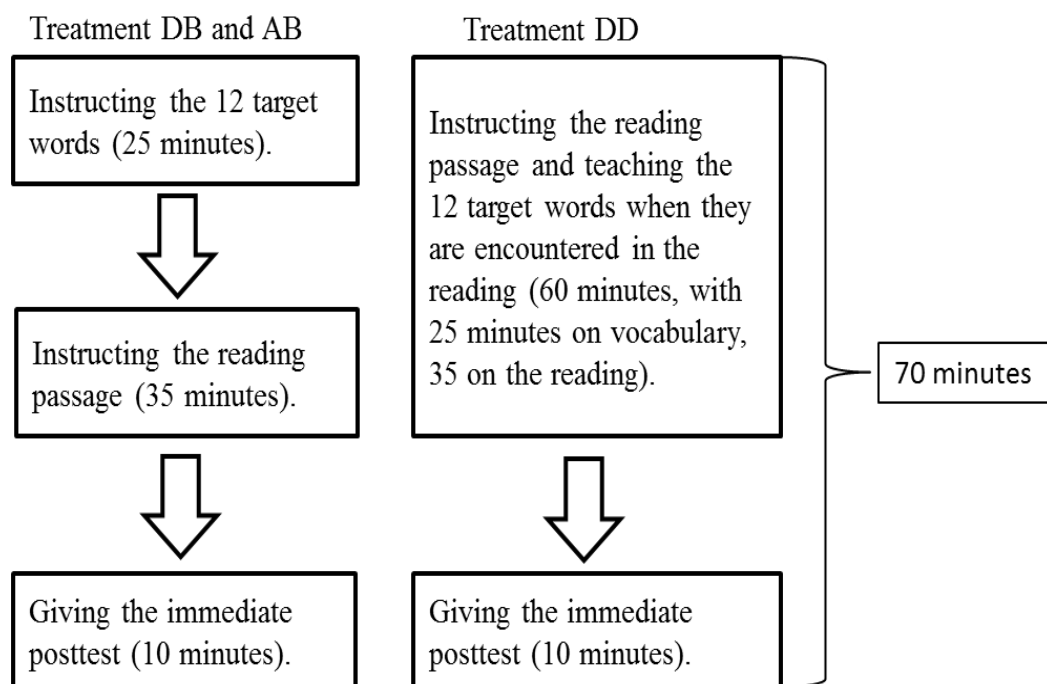


Figure 3.1 The Time Allocation for the Three Treatments

In Treatment DB, DB representing dictionary and before, the example sentences followed the dictionary entry format and they were taught before reading. In Treatment AB, AB representing adapted and before, the example sentences were adapted from the reading text and they were taught before reading. In these two treatments, each target word was taught before reading in the same steps. First, the researcher pronounced the word and asked the participants to repeat after the researcher. Then, the part of speech,

English definition, and Chinese equivalent of the word would be read and elaborated upon by the researcher. The participants were then asked to read aloud the example sentence following the dictionary entry format (in Treatment DB) or adapted directly from the reading passage (in Treatment AB). At last, the researcher explained the meaning of the example sentence to the participants. The teaching steps for the target words are included in Figure 3.2.

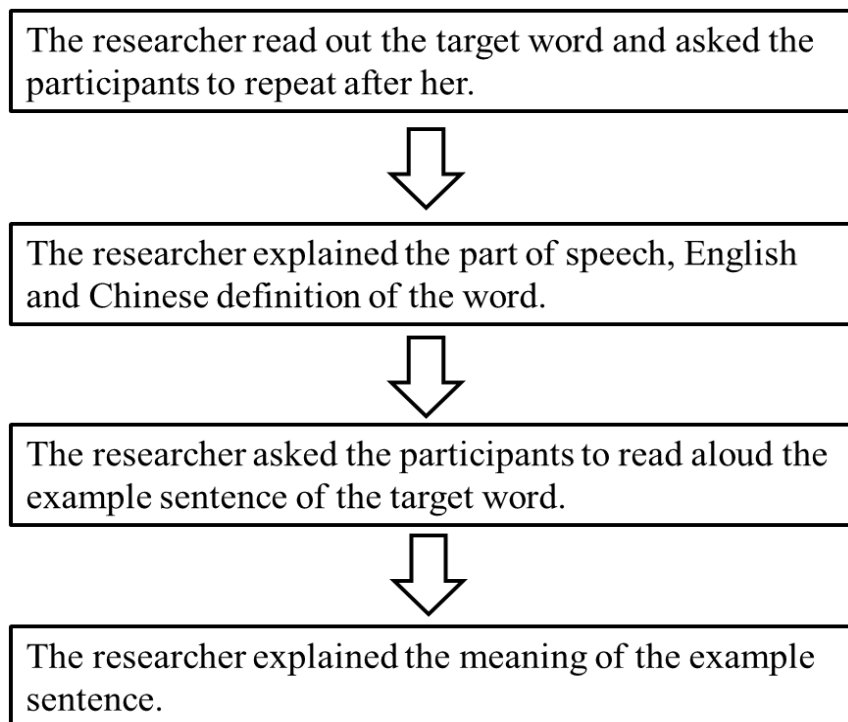


Figure 3.2 The Teaching Steps for the Target Words

After teaching all of the twelve target words, the researcher moved on to instruct the reading text. Though the 12 target words were in boldface in the reading, the researcher

would not pay much attention to them during the reading instruction. When instructing the reading text, the researcher read each sentence aloud and asked the participants to follow along. After finishing reading a paragraph, the researcher discussed the main idea of the paragraph with the students. Each paragraph followed the same teaching steps. Figure 3.3 displays the teaching process of Treatment DB and AB. For more detailed lesson plans for the treatments, see Appendix F.

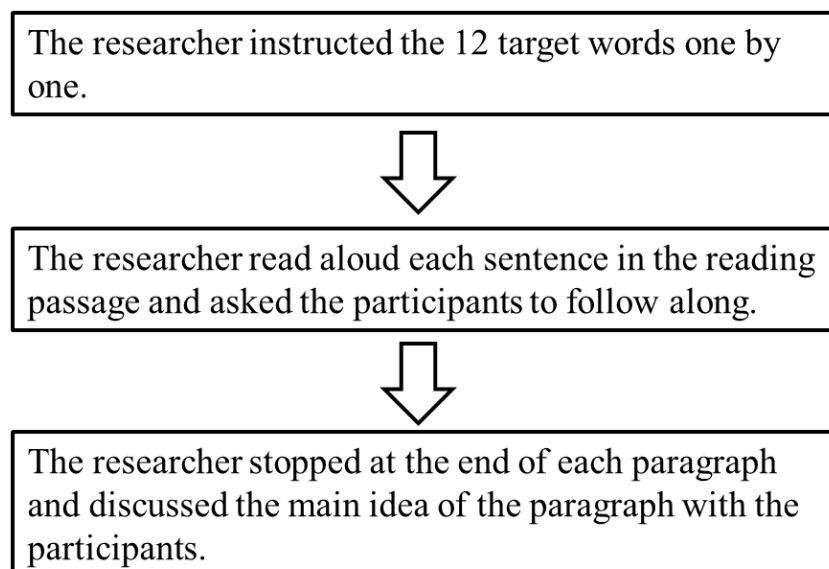


Figure 3.3 The Teaching Process of Treatment DB and AB

In Treatment DD, DD representing dictionary and during, the vocabulary items with example sentences following the dictionary entry format were taught during the reading instruction. The researcher started the treatment with reading the text aloud. When reading a sentence containing a target word which was in boldface in the text, the

researcher would stop at the end of the sentence and instruct the target word. The word was taught in the same steps as in Treatment DB and AB (see Figure 3.2). At the end of each paragraph, the researcher also discussed the main idea of the paragraph with the participants. Aside from teaching the target word during the reading process, the reading instruction of Treatment DD followed the same steps as in the other two treatments. Figure 3.4 shows the teaching process of Treatment DD.

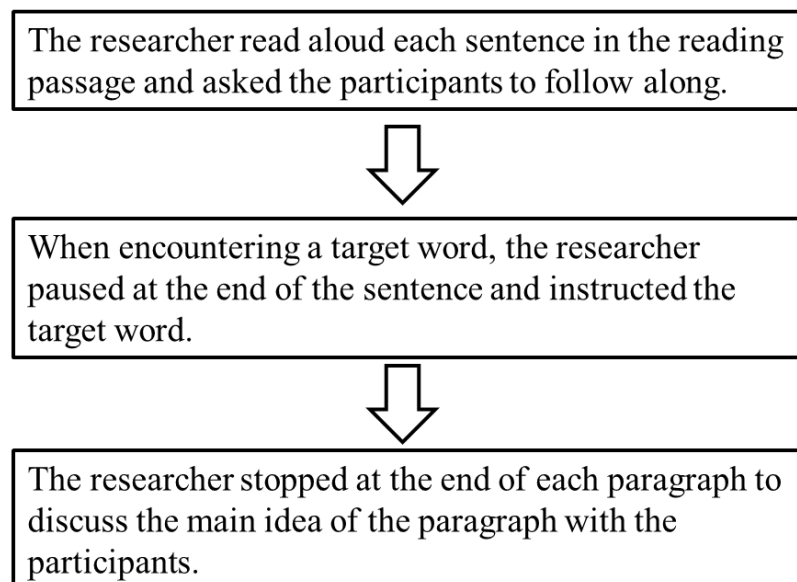


Figure 3.4 The Teaching Process of Treatment DD

Treatment DB did not start until two weeks after the pretests, which were implemented to ensure that the 36 target words were unknown to the participants. Though the three articles were of equivalent difficulty as mentioned above, the teaching order of the reading articles in the two classes were different to ensure that the articles would not

be a variable that would contaminate the results of the treatments. For example, in Treatment DB, article *Music* was taught to Class A while article *Body's Limits* was instructed to Class B. Participants were asked to take a delayed posttest two weeks after each treatment. The second treatment (DD) and the third treatment (AB) were implemented three weeks after the first and second delayed posttest respectively. Participants were not notified about the immediate and delayed posttests before taking them. The teaching order of the three articles in the three treatments is presented in Table 3.3.

Table 3.3
The Teaching Order of the Three Articles in the Treatments

Treatment	Class A	Class B
DB	<i>Music</i>	<i>Beyond</i>
DD	<i>Body's Limits</i>	<i>Work</i>
AB	<i>Work</i>	<i>Music</i>

3.2.3 Measurement Instruments

This study aimed to examine the effects of using different types of example sentences on vocabulary learning and retention. Also, it was conducted to compare isolated and integrated vocabulary teaching in reading. To reach the research purposes, four types of instruments were incorporated in the study. They included (a) two vocabulary pretests, (b) an immediate vocabulary posttest, (c) a delayed vocabulary

posttest, and (d) a questionnaire. The following section is a detailed description of the instruments.

Two vocabulary pretests

To ensure that the 36 target words were unknown to the participants, two vocabulary pretests were given to the participants before the treatments, with the second pretest delivered a week after the first one. The first pretest (Pretest A) listed the 36 target words in the first column (see Appendix G). The participants were required to check their knowledge for each target word in the three columns next to the word. The three columns are A) *I haven't seen this word before*, B) *I have seen this word before, but I don't know what it means*, and C) *I know this word, and it means _____*. Figure 3.5 shows the first page of Pretest A.

Name: _____

Student Number: _____

		A	B	C
	Word Item	I have never seen this word before.	I have seen this word before, but I don't know what it means.	I know this word, and it means _____.
1	adapt			
2	appealing			
3	rhythm			
4	immigrant			
5	population			
6	genre			
7	previously			
8	popularize			
9	combine			
10	lyrics			
11	fusion			
12	diverse			
13	resilient			
14	demonstrate			
15	cope			
16	surgery			
17	diagnose			
18	injection			
19	exhausting			
20	endurance			
21	recover			
22	strain			
23	determination			
24	achievement			
25	hectic			
26	conduct			

Figure 3.5 The First Page of Pretest A

The second pretest was a fill-in-the-blank test (see Appendix H). It contained six sections. In each section, participants had to choose the correct target words listed on the top of the section to fill in the six sentences. In addition to the six target words, an extra word was added as a distractor. To prevent participants from guessing, an *I don't know* option was placed after each question for them to choose. Figure 3.6 displays the first page of Pretest B.

Name: _____ Number: _____

Please use the words below and match them to their corresponding sentences.

A. well-being B. previously C. recover D. ecstasy E. currently F. combine G. chore

1. It'll take me an hour to do the household _____(s). I have to wash the dishes and clean up the kitchen.
(_____ I don't know.)
2. The Japanese pop star Hikaru Utada became famous in her native country, and around the world, by _____(ing) Japanese pop styles with English lyrics. (_____ I don't know.)
3. There is no cure for the disease _____. Hopefully, new treatment will be found in the future. (_____ I don't know.)
4. Parents have to pay attention to the physical and emotional _____ of the children. (_____ I don't know.)
5. _____, she was too busy to work in her garden. Now she spends most of her free time there. (_____ I don't know.)
6. Many athletes spend weeks or months _____(ing) from damage they have done to their bodies in training. (_____ I don't know.)

A. population B. strain C. symbolic D. hectic E. exhausting F. rhythm G. commute

1. He decided to continue the _____(ing) training for the Olympics, even though his body was sick.
(_____ I don't know.)
2. After weeks of overtime, she was starting to feel the _____. She longed for a vacation. (_____ I don't know.)
3. He could not help dancing when he heard the exciting _____ (s) of African drum music. (_____ I don't know.)
4. As a result of typhoons and earthquakes, currently the country only has a _____ of 2 million. (_____ I don't know.)
5. Many people spend up to two or three hours a day _____(ing) to and from work. (_____ I don't know.)
6. People today seem to have increasingly _____ lifestyles. Results showed that the average workweek for many Americans is fifty hours. (_____ I don't know.)

Figure 3.6 The First Page of Pretest B

The immediate posttest

The posttest (see Appendix I) would be given immediately after each treatment to measure participants' vocabulary learning performance. The posttest was designed as a fill-in-the-blank test as the second pretest as participants were expected to recognize the target words learned and used them in the sentence contexts. Each posttest contained two sections. Participants were asked to choose the correct target word offered on the top of each section to fill in the sentences. In addition to the target words, two extra words, which were also chosen from the reading text, would be added on the top of each section as distractors. Figure 3.7 shows the posttest for article *Music*.

Name: _____ Number: _____

Please use the words below and match them to their corresponding sentences.

A. genre B. traditional C. adapt D. popularize E. rhythm F. restrain G. combine H. immigrant

1. He could not help dancing when he heard the exciting _____(s) of African drum music.
2. The cook _____(s) eastern and western food by putting stinky tofu into a hamburger.
3. She was the daughter of Chinese _____(s) to America. Her grandfather moved from Beijing to New York fifty years ago.
4. Beethoven is recognized as a great musician in the _____ of classical music.
5. This storybook has been _____(ed) for teenagers. The original is much more difficult.
6. Bob Marley _____(ed) reggae music in the 1970s. Many people still listen to reggae nowadays.

A. population B. lyrics C. tendency D. fusion E. native F. diverse G. previously H. appealing

7. This on-line bookstore sells a _____ range of books and electronic products.
8. _____, she was too busy to work in her garden. Now she spends most of her free time there.
9. As a result of typhoons and earthquakes, currently the country only has a _____ of 2 million.
10. His _____ of jazz, pop and blues has proved highly successful. Many people are attracted to the new style of music.
11. Jay is a musician who wrote the _____ to our first song, which is popular with teenagers.
12. Spending a whole summer on the beautiful island, Bail, is a very _____ idea to me.

Figure 3.7 The Posttest for article Music

The delayed posttest

To investigate the vocabulary retention of the participants, the delayed posttest was conducted two weeks after the immediate posttest. The question sheet used for the immediate posttest was employed in the delayed posttest. The same question sheet was used in immediate posttest and delayed posttest as the question sheet was collected after the immediate posttest and the answer key was not given to the participants to prevent

review effect. Lee (2012) provided empirical evidence that old test items and new test items yielded similar results in the delayed posttest if the test was given two weeks later. The practice effect of the old items was minimal then.

The questionnaire

The questionnaire (see Appendix J) was delivered a week after the final delayed posttest. It contained 9 questions (24 response items) in Chinese. The first 3 questions (12 response items) aimed to investigate the participants' attitudes toward learning example sentences, while the rest 6 questions (12 response items) explored their preference for isolated vocabulary teaching before reading and integrated vocabulary teaching during reading. The participants were invited to indicate their level of agreement with each of the items based on 5-point Likert scale, ranging from "strongly agree" (5 points) to "strongly disagree" (1 point). A sample of the questionnaire is presented in Figure 3.8.

1.	When I prepare for a vocabulary test,					
	1-a I focus on memorizing the spelling of the words without studying the pronunciation of them and reading the example sentences.	5*	4	3	2	1
	1-b I study the pronunciation of the words, and try to pronounce them.	5	4	3	2	1
	1-c I study the example sentences listed with the vocabulary.	5	4	3	2	1
2.	I think that studying the pronunciation of the words and trying to pronounce them helps me					
	2-a remember the spelling of the words.	5	4	3	2	1
	2-b remember the exact meaning of the words	5	4	3	2	1
	2-c remember the usage of the words in the contexts	5	4	3	2	1
3.	I think that studying the example sentences of the vocabulary helps me					
	3-a pay attention to the spelling of the words.	5	4	3	2	1
	3-b understand the exact meaning of the words.	5	4	3	2	1
	3-c understand the usage of the words in the contexts.	5	4	3	2	1
	3-d remember the spelling of the words.	5	4	3	2	1
	3-e remember the exact meaning of the words.	5	4	3	2	1
	3-f remember the usage of the words in the contexts.	5	4	3	2	1
4.	I like Treatment DB	5	4	3	2	1
5.	I hope that the teacher uses this method to teach vocabulary often	5	4	3	2	1
6.	because I think Treatment DB helps me					
	6-a remember the spelling of the words.	5	4	3	2	1
	6-b remember the exact meaning of the words.	5	4	3	2	1
	6-c remember the usage of the words in the contexts.	5	4	3	2	1
	6-d understand the reading text.	5	4	3	2	1
7.	I like Treatment DD	5	4	3	2	1
8.	I hope that the teacher uses this method to teach vocabulary often	5	4	3	2	1
9.	because I think Treatment DD					
	9-a remember the spelling of the words.	5	4	3	2	1
	9-b remember the exact meaning of the words.	5	4	3	2	1
	9-c remember the usage of the words in the contexts.	5	4	3	2	1
	9-d understand the reading text.	5	4	3	2	1

Figure 3.8 The Questionnaire

3.3 Data Collection Procedures

The data collected from the study includes two pretests, three posttests, three delayed posttests, and a questionnaire. The data collection procedure lasted for 17 weeks. Table 3.4 provides a general description of the data collection procedure.

Table 3.4
The Data Collection Procedure

Week	Date	Procedure	
		Class A	Class B
1	02/12-02/18	Pretest A	Pretest A
2	02/19-02/25	Pretest B	Pretest B
3	02/26-03/03		
4	03/04-03/10	Treatment DB on article <i>Music</i> and immediate posttest	Treatment DB on article <i>Body's Limits</i> and immediate posttest
5	03/11-03/17		
6	03/18-03/24	The delayed posttest	The delayed posttest
7	03/25-03/31		
8	04/01-04/07		
9	04/08-04/14	Treatment DD on article <i>Body's Limits</i> and immediate posttest	Treatment DD on article <i>Work</i> and immediate posttest
10	04/15-04/21		
11	04/22-04/28	The delayed posttest	The delayed posttest
12	04/29-05/05		
13	05/06-05/12		
14	05/13-05/19	Treatment AB on article <i>Work</i> and immediate posttest	Treatment AB on article <i>Music</i> and immediate posttest
15	05/20-05/26		
16	05/27-06/02	The delayed posttest	The delayed posttest
17	06/03-06/09	The questionnaire	The questionnaire

The data collected from the two pretests served as evidence that participants had not learned any of the target words. Any target word that was known to more than three participants in the study would be removed and replaced with a new target word.

The three posttests, which were administered immediately after the three treatments, were collected by the researcher to examine the participants' learning performance in the three treatments. Likewise, the three delayed posttests, which were administered two weeks after the treatments, were collected to investigate the retention of the vocabulary taught during the three treatments.

The questionnaire, which was given to the participants a week after the third delayed posttest, was gathered to get a better understanding of the participants' attitudes towards learning vocabulary and the two types of example sentences.

3.4 Data Analysis Procedures

The data collected in the study was analyzed by running SPSS 15.0 for Windows. For the two pretests, three immediate posttests, and three delayed posttests, a point was given to a correct answer. The wrong answers would not be awarded with any points. The maximum score for the first and second pretest was 36. As for each immediate posttest and delayed posttest, the maximum score was 12. The maximum score for all of the tests employed in the study is displayed in Table 3.5.

Table 3.5
The Maximum Scores for the Tests of the Study

	Pretest A	Pretest B	Immediate Posttests	Delayed posttests
Max. score	36	36	12×3	12×3

The Spearman-Brown split-half coefficient analysis was used to examine the reliability of the pretests, immediate posttests and delayed posttests. In addition, Cronbach's α was computed to examine the reliability of the questionnaire. To investigate if the three teaching approaches of example sentences had positive effects on vocabulary learning and retention in order to answer the first and second research question, a Paired Samples *t*-test was applied to make comparisons between pretests and immediate posttests as well as pretests and delayed posttests. Then, one-way ANOVA was employed to compare the scores of the three immediate posttests as well as the three delayed posttests to understand if there was a significant difference among the three treatments on vocabulary learning and retention in order to answer the third and fourth research questions.

As for the fifth research question, descriptive statistics would be employed to report the results of the questionnaire collected to explore participants' attitudes toward the learning example sentences, and isolated and integrated vocabulary learning. The data analysis procedures for the research questions are presented in Table 3.6.

Table 3.6

The Data Analysis Procedures for the five Research Questions

Research question	Type of data collected	Type of analysis
RQ1: Does learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction have significant effectiveness on vocabulary learning?	Scores of the pretests, immediate posttests and delayed posttests	Paired-samples <i>t</i> -test
RQ2: Does learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction have significant effectiveness on vocabulary retention?	Scores of the pretests, immediate posttests and delayed posttests	Paired-samples <i>t</i> -test
RQ3: Does a significant difference exist among learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction vocabulary learning?	Scores of the immediate posttests and delayed posttests	One-way ANOVA
RQ4: Does a significant difference exist among learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction on vocabulary retention?	Scores of the immediate posttests and delayed posttests	One-way ANOVA
RQ5: What are the participants' attitudes toward using example sentences as well as isolated and integrated vocabulary learning?	Results of the questionnaire	Descriptive statistics; <i>t</i> -test

3.5 Descriptive Statistics and Reliability of Pretest A and B

Table 3.7 displays the descriptive statistics and reliability of Pretest A and B. With a mean score of 0.10 and 0.15 for Pretest A and B respectively, most participants scored zero on the two pretests. None of the 36 target words were recognized by more than two participants. Thus, the 36 target words remained unchanged in the study. Table 3.8 presents the target words recognized by the participants.

As for the reliability of the two pretests, the results of the Pearson r obtained by split-half method with the Spearman-Brown correlation showed that the reliability coefficient for Pretest A and B were 0.71 and 0.77 respectively. The results indicated that the two pretests were reliable.

Table 3.7
Descriptive Statistics and Reliability of Pretest A and B

Test	No. of Items	Mean	SD	Maximum	Spearman-Brown Coefficient
Pretest A	36	0.10	0.38	2	0.71
Pretest B	36	0.15	0.62	4	0.77

N = 73

Table 3.8

The Target Words Recognized by the Participants

Target Words	The Number of Participants Recognizing the Word
cinema	1
chore	1
cope	1
exhausting	1
lyrics	2
pastime	2
population	1
previously	1
pursue	1
rank	1
recover	1
rhythm	1

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the results of the experiment. The reliability of the research instruments, including all of the tests and the questionnaire, are examined and displayed first. This is followed by the display of the score distributions of the tests. Then, the statistical results of the participants' performance on the three treatments are illustrated. At last, the results derived from the experiment are discussed and answers to each of the research questions are also included in the last section.

4.1 The Reliability of the Research Instruments

The reliability of all of the research instruments, including the two pretests, the three immediate posttests, the three delayed posttests, and the questionnaire were examined. After ensuring the reliability of Pretest A and Pretest B, which were 0.71 and 0.77 on Spearman-Brown split-half coefficient analysis (see Table 3.7), the researcher felt assured and conducted the treatments.

Three different vocabulary matching tests, one for each reading passage, were designed to assess the vocabulary learned and retained from the three reading passages in the immediate posttests and delayed posttests. For the reliability of these tests, Spearman-Brown split-half coefficient analysis was applied again. The reliability

coefficients of the immediate posttest and delayed posttest for the passage titled *Music*, were 0.72 and 0.67 respectively. The reliability coefficients of the immediate posttest and delayed posttest were 0.61 and 0.72 for *Beyond*. As for the reliability for *Work*, the coefficients on immediate posttest and delayed posttest were 0.73 and 0.72 respectively. Table 4.1 displays the results of the reliability of the immediate posttests and delayed posttests.

Table 4.1
The Reliability of the Immediate Posttests and Delayed Posttests

	<i>Music</i>		<i>Body's Limits</i>		<i>Work</i>	
	Po	Dep	Po	Dep	Po	Dep
Spearman-Brown Coefficient	0.70	0.67	0.61	0.72	0.73	0.72

Note. Po = immediate posttest; Dep = delayed posttest.

To examine the reliability of the questionnaire, Cronbach's Alpha analysis was employed. The reliability of the questionnaire collected from the 73 participants was 0.857, which was much higher than 0.7, the acceptable reliability coefficient for questionnaire (Santos, 1999).

4.2 Score Distribution

In this section, the test scores are presented in the order of Treatment DB, DD and AB. First, the researcher found that diverse score distributions existed among the pretest, the immediate posttest and the delayed posttest of Treatment DB. The abbreviation DB represents dictionary and before. With only one participant scored 1 point and one scored 3 points on the pretest for the target words listed in passages *Music* and *Body's Limits*, almost all of the target words were unknown to the participants. The visual presentation of the score distributions is displayed in Figure 4.1.

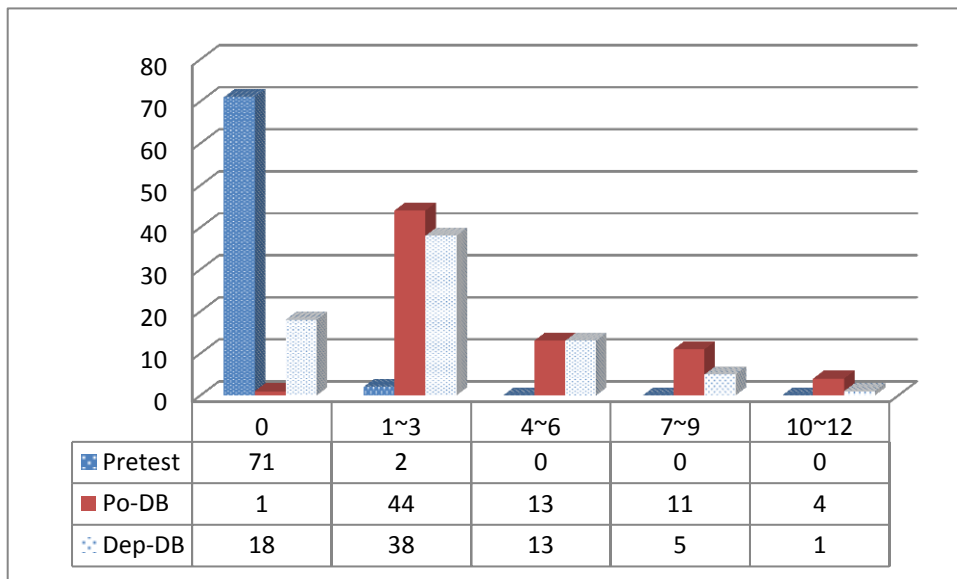


Figure 4.1 The Score Distributions of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DB (N = 73)

In contrast, most of the scores fell between 1 to 6 on the immediate posttest and delayed posttest, with 78.1% and 67.1% respectively. Four participants achieved scores higher than 10 points on the immediate posttest and one achieved the full score of 12 points on the delayed posttest. Table 4.2 presents the percentage of the test scores of Treatment DB.

Table 4.2
Frequency of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DB

Score	Pretest	Po-DB	Dep-DB
0	97.3%	1.4%	24.7%
1~3	2.7%	58.9%	49.3%
4~6	0%	19.2%	17.8%
7~9	0%	15.0%	6.8%
10~12	0%	5.5%	1.4%
1~6	2.7%	78.1%	67.1%

Similarly, the score distributions on the pretest, posttest and delayed posttest of Treatment DD, i.e. the abbreviations for dictionary and during, displayed variety. For pretest scores of the target words included in the passage *Body's Limits* and *Work*, only one participant scored 1 point. The other 72 participants scored 0 on the pretest. Although four participants scored higher than 10 points on the posttest, the highest score for the delayed posttest was 9 (see Figure 4.2).

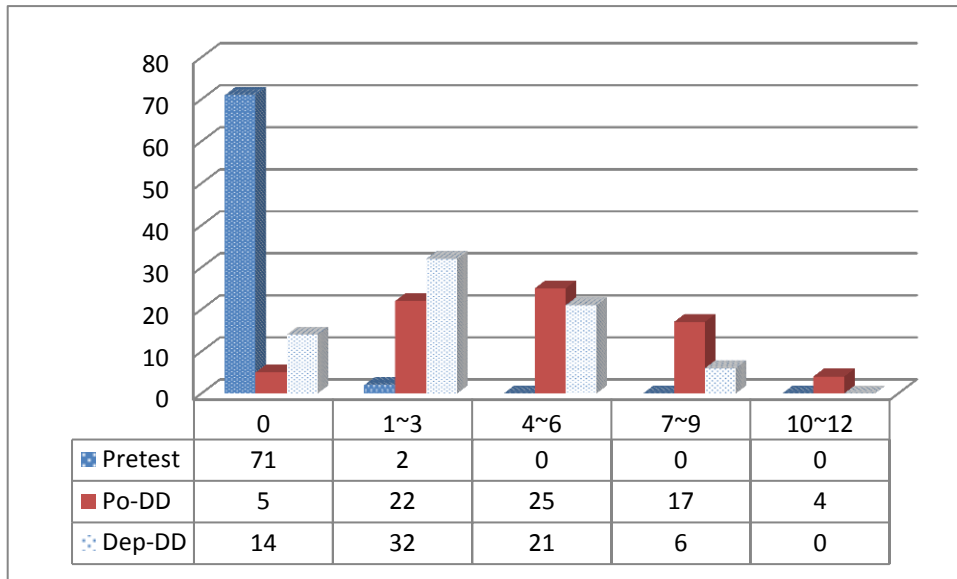


Figure 4.2 The Score Distributions of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DD (N = 73)

Most of the scores fell between 1 to 9 points on the immediate posttest (87.7%) and between one to six points on the delayed posttest (72.6%). Table 4.3 presents the test results of Treatment DD.

Table 4.3

Frequency of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DD

Score	Pretest	Po-DD	Dep-DD
0	97.3%	6.8%	19.2%
1~3	2.7%	30.2%	43.8%
4~6	0%	34.2%	28.8%
7~9	0%	23.3%	8.2%
10~12	0%	5.5%	0%
1~6	2.7%	64.4%	72.6%

For Treatment AB, AB representing adapted and before, the score distributions of the three tests also showed great differences. The pretest score of the target words contained in the reading passages *Music* and *Work* was extremely low, with only one participant scoring 1 point and two scoring 3 points (see Figure 4.3).

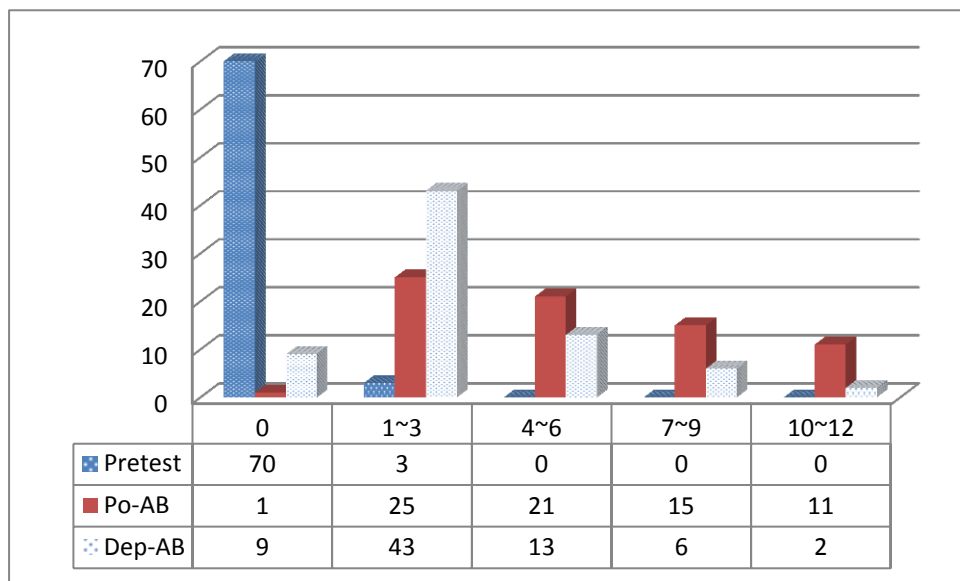


Figure 4.3 The Score Distributions of the Pretest, Immediate Posttest and Delayed Posttest of Treatment AB (N = 73)

Although most of the scores fell between 1 to 9 points on the immediate posttest (83.5%), 11 participants achieved scores higher than 10 points. The scores on the delayed posttest were centralized between 1 to 6 points (76.7%), with two participants scoring higher than 10 points. The percentage of the scores of Treatment AB is displayed in Table 4.4.

Table 4.4

Frequency of the Pretest, Immediate Posttest and Delayed Posttest of Treatment AB

Score	Pretest	Po-AB	Dep-AB
0	95.6%	1.4%	12.3%
1~3	4.4%	34.2%	58.9%
4~6	0%	28.8%	17.8%
7~9	0%	20.5%	8.3%
10~12	0%	15.1%	2.7%
1~6	4.4%	63.0%	76.7%

4.3 Test Performance

The participants' test performance on each treatment is displayed first in this section, which includes statistical results of the tests and comparison of test scores in each treatment. Then the results of the comparison of test scores among the three treatments are displayed and explained.

4.3.1 The Participants' Performance on each Treatment

For Treatment DB, the participants had an average score of 0.55 on the pretest with the highest score of 3 points. The participants' mean score was 4.04 for the 12-item immediate posttest. One participant achieved the full score of 12 points and the lowest score was 0 on the immediate posttest. In addition, the participants obtained a mean score of 2.37 on the delayed posttest. Similar to the posttest, the highest possible score of 12 points was achieved by one participant and the lowest score was 0 on the delayed posttest.

Compared to the immediate posttest and delayed posttest, the standard deviation of the pretest was relatively small. The reason was that 70 out of the 73 participants scored 0 on the pretest, whereas the scores on the immediate posttest and delayed posttest varied across a wider range (see Table 4.5).

Table 4.5
Descriptive Statistics of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DB

Test	Mean	SD	Range	Max	Mini	No. of Items
Pretest	0.55	0.36	3	3	0	12
Posttest	4.04	2.78	12	12	0	12
Delayed	2.37	2.51	12	12	0	12

N = 73

The mean score was 0.02 on the 12-item pretest of Treatment DD, with the highest score of 1 point. For the immediate posttest, the participants had a mean score of 4.79. Four participants obtained the highest score of 11 points and the lowest score was 0. The average score for the delayed posttest was 2.74. The participants' highest score was 9 points and the lowest score was 0. Like that of Treatment DB, the standard deviation of the pretest was small. Table 4.6 displays the descriptive statistics of the tests of Treatment DD.

Table 4.6

Descriptive Statistics of the Pretest, Immediate Posttest and Delayed Posttest of Treatment DD

Test	Mean	SD	Range	Max	Mini	No. of Items
Pretest	0.02	0.16	1	1	0	12
Posttest	4.79	2.99	11	11	0	12
Delayed	2.74	2.34	9	9	0	12

N = 73

With regard to the participants' test performance on Treatment AB, the average score for the pretest was 0.68. The highest pretest score was 3 points achieved by one participant. The participants got a mean score of 5.42 on the immediate posttest. Five participants achieved the full score of 12 points and the lowest score was 0 on the immediate posttest. For the delayed posttest, the average score was 2.78. The highest possible score of 12 points was obtained by one participant and the lowest score was also 0 on the delayed posttest. A huge difference in standard deviations was found between the pretest and immediate posttest and between pretest and delayed posttest since most participants scored 0 on the pretest (see Table 4.7).

Table 4.7
Descriptive Statistics of the Pretest, Immediate Posttest and Delayed Posttest of Treatment AB

Test	Mean	SD	Range	Max	Mini	No. of Items
Pretest	0.68	0.38	3	3	0	12
Posttest	5.42	3.38	12	12	0	12
Delayed	2.78	2.54	12	12	0	12

N = 73

A paired-samples *t*-test was employed to make the within group comparisons of test scores in each treatment. For Treatment DB, with a mean difference of 3.98, a significant difference was found between the immediate posttest and the pretest ($t = 11.96, p < .05$) and so was statistically significant difference ($MD = 2.31$) found between the pretest and the delayed posttest ($t = 7.79, p < .05$). Moreover, a significant mean difference ($MD = 1.67$) existed between the immediate posttest and delayed posttest ($t = 4.72, p < .05$).

Table 4.8 displays the results of the paired samples *t*-test of Treatment DB.

Table 4.8

Paired-Samples t-test Results of the Participants' Performances on Treatment DB

Test Pairs	Paired Difference				<i>t</i>	Sig. (2-tailed)
	MD	SD	95% Confidence			
			Lower	Upper		
Pre – Po	3.98	2.84	3.32	4.65	11.96*	.000
Pre – Dep	2.31	2.53	1.72	2.97	7.79*	.000
Po – Dep	1.67	3.02	0.97	2.38	4.72*	.000

N = 73

Note. * $p < .05$. ** $p < .01$. Pre = pretest; Po = immediate posttest; Dep = delayed posttest.

The mean difference between the pretest and immediate posttest scores in Treatment DD was 4.79. The results of the paired-samples *t*-test indicated a significant difference between the two tests ($t = 13.65$, $p < .05$). Furthermore, a statistically significant difference existed between the pretest and the delayed posttest ($t = 9.79$, $p < .05$), and between the immediate posttest and the delayed posttest ($t = 5.44$, $p < .05$). The results of the paired-samples *t*-test on Treatment DD are presented in Table 4.9

Table 4.9

Paired-Samples t-test Results of the Participants' Performances on Treatment DD

Test Pairs	Paired Difference				<i>t</i>	Sig. (2-tailed)
	MD	SD	95% Confidence			
			Lower	Upper		
Pre – Po	4.79	2.98	4.07	5.46	13.65*	.000
Pre – Dep	2.71	2.36	2.16	3.26	9.79*	.000
Po – Dep	2.05	3.23	1.31	2.81	5.44*	.000

N = 73

Note. * $p < .05$. ** $p < .01$.

For Treatment AB, there was a significant difference between the pretest and the immediate posttest ($t = 13.45, p < .05$), with a mean difference of 5.35. In addition, the participants' performance between the pretest and the delayed posttest was significantly different ($t = 8.96, p < .05$) and so was their performance between the immediate posttest and delayed posttest ($t = 7.89, p < .05$). Table 4.10 shows the results of paired-samples t -test of the 73 participants' performance on Treatment AB.

Table 4.10

Paired-Samples t -test Results of the Participants' Performances on Treatment AB

Test Pairs	Paired Difference				t	Sig. (2-tailed)
	MD	SD	95% Confidence			
			Lower	Upper		
Pre – Po	5.35	3.40	4.56	6.14	13.45*	.000
Pre – Dep	2.71	2.58	2.10	3.31	8.96*	.000
Po – Dep	2.64	2.86	1.97	3.31	7.89*	.000

N = 73

Note. * $p < .05$. ** $p < .01$.

4.3.2 Comparison of the Test Performance among the Three Treatments

One-way ANOVA was conducted to compare the participants' performance of the three treatments. The participants' pretest performance on the target words tested in each treatment was compared first. No significant difference was found among the participants' performance on the pretests of the three treatments ($Sig. = 0.735, p > .05$). Table 4.11 displays the results of the one-way ANOVA.

Table 4.11

One-way ANOVA of the Pretests of the Three Treatments

Source	SS	df	MS	F	Sig.
Between groups	0.64	2	0.032	0.30	0.735
Within groups	22.38	216	0.104		

N = 73

Note. * $p < .05$. ** $p < .01$.

After the assurance of no significant difference between the pretests of the three treatments, the participants' performance on the immediate posttests of the three treatments was analyzed further to know if a significant difference existed among them. One-way ANOVA indicated a significant difference of the three immediate posttests ($Sig. = 0.025, p < .05$). The HSD analysis showed that a significant difference occurred between Treatment DB and Treatment AB ($Sig. = 0.019, p < .05$). No significant difference existed between Treatment DB and Treatment DD ($Sig. = 0.299, p > .05$) as well as between Treatment DD and Treatment AB ($Sig. = 0.429, p > .05$). Table 4.12 and Table 4.12 present the results of One-way ANOVA and HSD analysis respectively.

Table 4.12

One-way ANOVA of the Immediate Posttests of the Three Treatments

Source	SS	df	MS	F	Sig.
Between groups	70.06	2	35.03	3.74	0.025*
Within groups	2024.63	216	9.37		

N = 73

Note. * $p < .05$. ** $p < .01$.

Table 4.13

Significant Mean Difference of the Immediate Posttests of the Three Treatments

Treatments	MD	SE	95% Confidence		Sig.
			Lower	Upper	
DB – DD	-0.75	0.51	-1.94	0.44	0.299
DB – AB	-1.38	0.51	-2.58	-0.19	0.019*
DD – AB	-0.63	0.51	-1.83	0.57	0.429

N = 73

Note. * $p < .05$. ** $p < .01$.

For the delayed posttests of the three treatments, the participants' performance did not differ significantly ($Sig. = 0.543$, $p > .05$). Table 4.14 displays the results of the one-way ANOVA analysis of the three delayed posttests.

Table 4.14

One-way ANOVA of the Delayed Posttests of the Three Treatments

Source	SS	df	MS	F	Sig.
Between groups	7.48	2	3.74	0.62	0.543
Within groups	1317.56	216	6.10		

N = 73

Note. * $p < .05$. ** $p < .01$.

4.4 Discussion and Comparison with Previous Studies

After the presentation of the statistical results in the previous sections, interpretation to the statistical results and answers to the research questions are presented in this section.

The research questions raised in the current study are as follows:

1. Does learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction have significant effectiveness on vocabulary learning?
2. Does learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction have significant effectiveness on vocabulary retention?
3. Does a significant difference exist among learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with example sentences adapted directly from the reading text before reading instruction on vocabulary learning?
4. Does a significant difference exist among learning vocabulary with example sentences following the dictionary entry format before reading instruction, with example sentences following the dictionary entry format during reading instruction, and with

example sentences adapted directly from the reading text before reading instruction on vocabulary retention?

5. What are the participants' attitudes toward using example sentences as well as isolated and integrated vocabulary learning?

The research questions are answered in the following sections according to the order presented here.

4.4.1 The Effects of the Three Teaching Approaches on Vocabulary Learning and Retention

The first and second questions asked whether the three teaching approaches had significant effectiveness on vocabulary learning and retention. The answer to the first research question is "Yes." A paired-samples *t*-test (see Table 4.8, 4.9, and 4.10) was conducted to investigate the effects of the three teaching approaches on vocabulary learning. The results showed a significant difference in the participants' performance before and immediately following each treatment. Figure 4.4 visualizes the mean scores of immediate posttests and delayed posttests in the three Treatments.

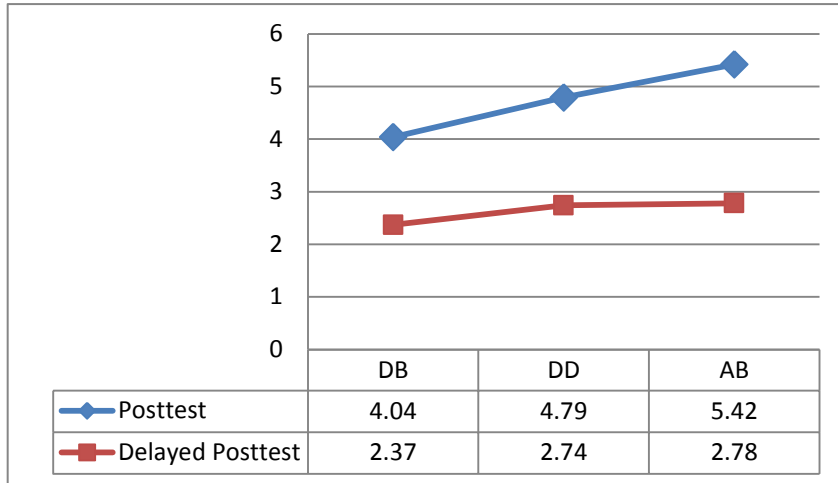


Figure 4.4 The Means of the Immediate Posttests and Delayed Posttests

The answer to the second research question is “Yes.” To answer this research question, a paired-samples *t*-test (see Table 4.8, 4.9, and 4.10) was conducted again to explore whether the three teaching approaches have significant effects on vocabulary retention two weeks following each treatment. The results indicated that the participants’ performance was significantly different before and two weeks after each treatment (see Figure 4.4).

The findings supported previous research that reading instruction plus explicit vocabulary learning activities facilitated vocabulary learning and retention (Guo, 2010; Hulstijn & Laufer, 2001; Kim, 2007; Min, 2008; Schmitt & Sonbal, 2009). Explicit vocabulary teaching raises learners’ conscious awareness on the target words and thus helps learners notice the words when they meet the words again in the reading text

(Nation, 2010). The summary of the previous studies as well as the findings of the current study are presented in Table 4.15.

Table 4.15

Summary of the Previous Studies and the Current Study on Explicit Vocabulary Teaching in Reading

Studies	Participants	Explicit vocabulary learning activities	The effectiveness of the activities
Hulstijn & Laufer (2001)	225 university EFL learners, with 97 in the Netherlands and 128 in Israel	Blank filling while reading the passage, and composition writing after reading	(1) Effective on vocabulary learning. (2) Effective on vocabulary retention (1 and 2 weeks later).
Kim (2007)	297 adult EFL learners in Korea	Composition writing and sentence making	(1) Effective on vocabulary learning. (2) Effective on vocabulary retention (2 weeks later).
Min (2008)	50 third-year senior high school male students in Taiwan	Word definition matching, translation, and sentence making after reading	(1) Effective on vocabulary learning. (2) Effective on vocabulary retention (3 months later).
Schmitt & Sonbal (2009)	40 female university students in Saudi Arabia	Explicit instruction from the teacher after reading	(1) Effective on vocabulary learning. (2) Effective on vocabulary retention (1 week later).
Guo (2010)	93 university students in China	Synonym, word-matching, blank filling, second-hand cloze, and translation after reading	(1) Effective on vocabulary learning. (2) Effective on vocabulary retention (1 week later).
The current study	73 vocational high school students in Taiwan	Explicit vocabulary instruction with example sentences before and during reading instruction	(1) Effective on vocabulary learning. (2) Effective on vocabulary retention (2 weeks later).

The findings also demonstrated the effectiveness of learning example sentences for vocabulary learning and retention as example sentences, despite different types, were offered in the three treatments. The findings strengthened the benefits of learning example sentences for vocabulary learning empirically supported by previous studies (Adams & File, 2010; Baleghizadeh & Shahry, 2011; Webb, 2008; Zhang, 2009). In addition, the findings served as good evidence for the suggestion that when teaching a new word, teachers should offer contexts accompanying the word, such as paragraph reading contexts and/or some single sentence contexts (Blachowicz et al., 2006; Nation, 2005; Schmitt, 2008; Zaid, 2009). Table 4.16 provides a summary of the previous studies and the findings of the current study on example sentences.

Table 4.16

Summary of the Previous Studies and the Current Study on Example Sentences

Studies	Treatments	Participants	Major findings
Webb (2008)	Three more informative example sentences vs. three less effective ones	50 second-year university EFL learners in Japan	More informative example sentences were effective on (1) vocabulary learning.
Zhang (2009)	Example sentences provided by the teacher, provided by the students, and without example sentences	58 second-year university EFL learners in China	Example sentences were effective on (1) vocabulary learning and (2) retention (1 week later).
Adams & File (2010)	Isolated vocabulary teaching with example sentences before reading vs. integrated vocabulary teaching in reading	20 intermediate level adult learners in New Zealand	Isolated instruction benefited learners more on (1) vocabulary learning and (2) retention (16 days later).
Baleghizadeh & Shahry (2011)	Three consecutive example sentences with L1 equivalents vs. L1 equivalents alone	40 adult EFL learners in Iran	Consecutive example sentences were effective on (1) vocabulary learning and (2) retention (1 week later).
Huang (2003)	L1 gloss, L2 gloss, and L2 gloss with example sentences	262 third-year junior high EFL learners	L2 gloss with example sentences was effective on (1) vocabulary learning and (2) retention (1 and 3 weeks later).
Cheng & Good (2009)	L1 in-text gloss, L1 marginal gloss, and L1 gloss with example sentences	135 university EFL learners	L1 gloss with example sentence was effective on (1) vocabulary learning and (2) retention (1 and 2 weeks later).
The current study	Explicit vocabulary instruction with example sentences before and during reading	73 vocational high school students in Taiwan	Example sentences were effective on (1) vocabulary learning and (2) retention (2 weeks later).

The third and fourth research questions asked whether a significant difference existed among the three teaching approaches on vocabulary learning retention. The answer to the third research question is “Yes.” Among the three immediate posttests of the three treatments, the highest mean score fell on Treatment AB ($M = 5.42$), followed by

Treatment DD ($M = 4.79$) and Treatment DB ($M = 4.04$). Figure 4.5 shows a visual representation of the mean scores of the three immediate posttests and delayed posttests.

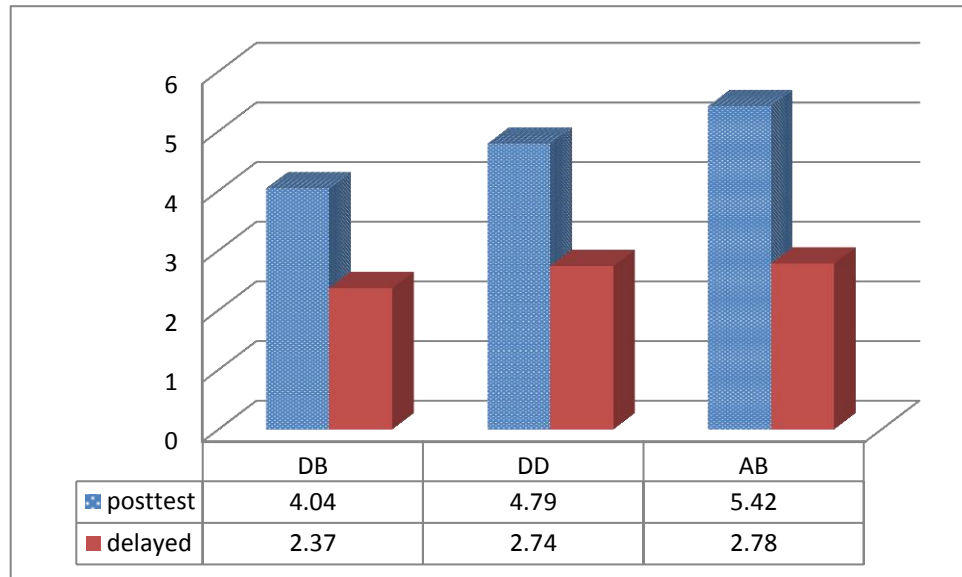


Figure 4.5 The Means of the Three Immediate Posttests and delayed posttests

One-way ANOVA was conducted to examine whether the participants' vocabulary learning differed significantly on the three treatments. The results showed a significant difference among the three immediate posttests (see Table 4.12). The HSD test indicated a significant difference occurred between Treatment AB and DB (see Table 4.13). The mean score of Treatment AB was 0.63 point higher than that of Treatment DB though no significant difference was found between the two treatments.

The findings proved that different example sentence contexts may have different effectiveness on vocabulary learning as shown in the previous studies (Baleghizadeh &

Shahry, 2011; Webb, 2008; Zhang, 2009). By learning example sentences adapted directly from the reading text prior to reading, learners had an opportunity to preview some sentences in the reading text. When encountering the same or similar sentences in the reading text, learners might pay more attention to the target words as they made few or no efforts processing the meaning of the sentences. Their focus on the words may reinforce the words learned prior to reading. Furthermore, previewing the reading passage enhanced reading comprehension, which might help the participants assign meaning to the target words (Ur, 1996). On the contrary, when example sentences following dictionary entry format were learned prior to or in reading, the participants had to focus on processing the meaning of the reading text during reading instruction. As a result, the participants might not be able to pay much attention to the target words in the reading text.

The answer to the fourth research question is “No.” In order to answer the research question, the results of the delayed posttests for the three treatments were examined. The highest mean score was 2.78 on the delayed posttest of Treatment AB, followed by 2.74 of Treatment DD and 2.37 of Treatment DB (see Figure 4.6). One-way ANOVA showed that no significant difference existed among the delayed posttests two weeks after the treatments (see Table 4.14). Great vocabulary loss occurred in the three treatments.

The low retention rate of the target words, with approximately 20% to 25% retention rate, implies that more encounters of a learned word are crucial for learners to recall the word as suggested in prior research (Adams & File, 2010; Nation, 2010; Schmitt & Sonbul, 2010). Compared to the current study, the study conducted by Schmitt and Sonbul (2010), which explored direct vocabulary teaching after reading, showed a higher retention rate a week after the treatment, approximately 50% on meaning recognition test. In their study, more than 50% of the participants reviewed the reading article after the treatment, which explained the high retention rate of the target words. The results led to the conclusion that newly learned words had to be recycled for better retention (Schmitt & Sonbal, 2010). In the current study, the participants were unable to review the target words because the researcher retrieved the treatment materials. This was a possible contributor to the low rate of vocabulary retention.

With regard to the difference between isolated and integrated vocabulary learning, a comparison was made between Treatment DB and Treatment DD, as vocabulary with example sentences following the dictionary entry format were taught before and in reading in the two treatments respectively. The results of the HSD test showed that there was no significant difference between the two treatments (see Table 4.13). Both isolated vocabulary teaching before reading and integrated vocabulary teaching in reading led to vocabulary learning and retention. Despite statistical insignificance of the two teaching

approaches, the participants performed slightly better in integrated vocabulary teaching than isolated one, with mean scores of 4.79 and 4.04 on posttests, and 2.74 and 2.37 on delayed posttests respectively. The findings of the current study contradicted Adams and File's study, which concluded that isolated teaching led to a better rate of vocabulary learning and retention regardless of the insignificant difference between the two approaches (Adams & File, 2010). The main difference between the current study and the previous one was that example sentences following dictionary entry format were provided in both isolated and integrated vocabulary teaching in the current study while the previous study only included example sentences in isolated vocabulary teaching. It may thus be inferred that example sentences offered in integrated vocabulary teaching contribute to vocabulary learning and retention. Table 4.17 includes a summary of previous studies and the current study concerning different example sentence contexts on vocabulary learning and retention.

Table 4.17

Summary of the Previous Studies and the Current Study on Different Example Sentence Contexts

Studies	Treatments	Participants	Major findings
Webb (2008)	Three more informative example sentences vs. three less effective ones	50 second-year university EFL learners in Japan	(1) More informative example sentences were more effective on vocabulary learning.
Zhang (2009)	Example sentences provided by the teacher, provided by the students, and without example sentences	58 second-year university EFL learners in China	(1) Example sentences provided by the students was the most effective on vocabulary learning (2) Example sentences provided by the students was the most effective on vocabulary learning retention (1 week later).
The current study	example sentences following dictionary entry format before and during reading instruction, and example sentences adapted directly from the reading before reading instruction	73 vocational high school students in Taiwan	(1) Example sentences adapted directly from the reading were more effective than those following the dictionary entry format before reading instruction on vocabulary learning. (2) No significant difference among the three treatments on vocabulary retention.

4.4.2 The Participants' Attitudes toward Learning Example Sentences as well as**Isolated and Integrated Vocabulary learning**

The fifth question asked about participants' attitudes toward learning example sentences, and isolated and integrated vocabulary learning. To answer the question, the results of the questionnaire are examined. The means of all of the items of the first part of the questionnaire ranged from 2.62 to 4.33. Question 1 asked the participants what they focused on (spelling, pronunciation and/or example sentences) when they prepared for a vocabulary test. The highest mean was pronunciation ($M = 4.00$). Question 2 asked the

participants what they thought focusing on pronunciation could help them with. Remembering the word spelling received the highest rating ($M = 4.33$). The last question asked the participants the benefits of studying example sentences. Understanding the word meaning and word usage were mostly recognized with mean scores of 4.27 and 4.13 respectively. Meanwhile, remembering the word spelling, the meaning and usage were all considered useful. Their mean scores were 3.10 (spelling), 3.93 (meaning), and 3.88 (usage). Table 4.18 displays the item description and means of the first three questions of the questionnaire.

Table 4.18

The Means of the Participants' Attitudes toward Learning Example Sentences

No.	Item description	M
1	When I prepare for a vocabulary test,	
1-a	I focus on memorizing the spelling.	2.62
1-b	I focus on the pronunciation.	4.00
1-c	I study the example sentences.	3.29
2	Pronunciation of the word helps me	
2-a	remember the word spelling.	4.33
2-b	remember the word meaning.	3.15
2-c	remember the word usage.	2.82
3	Studying the example sentences helps me	
3-a	pay attention to the word spelling.	3.43
3-b	understand the word meaning.	4.27
3-c	understand the word usage.	4.12
3-d	remember the word spelling.	3.10
3-e	remember the word meaning.	3.93
3-f	remember the word usage.	3.88

The results indicated that more participants would focus on the pronunciation of the words than spelling and example sentences when preparing for a vocabulary test. The reason why they did so might be that they thought the strategy would help them remember the words. The participants gave an average rating of 3.29 to studying the example sentences when they prepared for a vocabulary test. They believed studying the example sentences helped them understand the word meaning and word usage better. This strategy also helped them more in remembering the word meaning and word usage. However, it has to be noted that the rating of the studying the example sentences was not

as high as studying pronunciation. Hence, teachers should encourage students to study example sentences and emphasize example sentences more when teaching vocabulary.

The second half of the questionnaire asked about the participants' attitudes toward Treatment DB and DD. All the mean scores of the six items were above 3 for Treatment DB, while one of the average ratings of Treatment DD was below 3. The means of the participants' attitudes toward the two treatments are presented in Table 4.19.

Table 4.19

The Means of the Participants' Attitudes toward Treatment DB and DD

No.	Item Description	Treatments	
		DB	DD
1	I like the treatment	3.60	3.18
2	I hope that the teacher uses this method often The treatment helps me	3.44	2.96
3	remember the word spelling.	3.44	3.01
4	remember the word meaning.	3.59	3.48
5	remember the word usage.	3.59	3.55
6	understand the reading text.	3.37	3.56

A paired-samples *t*-test showed that in the three of the six items, the participants' ratings of Treatment DB were significantly higher than those of Treatment DD. They were Item 1 ($t = 2.05, p < .05$), Item 2 ($t = 2.05, p < .05$), and Item 3 ($t = 2.38, p < .05$). Yet, no significant differences existed between the two treatments on Item 4, Item 5, and Item 6 ($t = 0.71, 0.26, \text{ and } -1.10, p > .05$) (see Table 4.20).

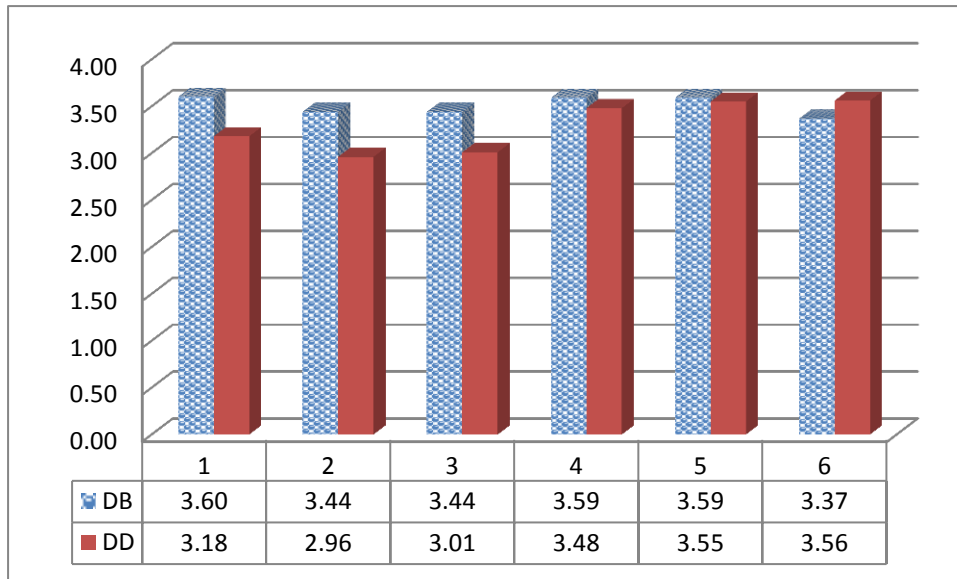
Table 4.20

Paired-samples t-test Results of Participants' Attitudes on Treatment DB and DD

Item No.	Paired Difference				<i>t</i>	Sig. (2-tailed)
	Mean	SD	95% Confidence			
			Lower	Upper		
1	0.42	1.76	0.01	0.83	2.05*	.043
2	0.47	1.63	0.09	0.86	2.05*	.014
3	0.42	1.04	0.16	0.68	3.28*	.002
4	0.10	1.30	-0.19	0.41	0.71	.476
5	0.04	1.33	-0.27	0.35	0.26	.794
6	-0.19	1.48	-0.53	0.15	-1.10	.274

Note. * $p < .05$. ** $p < .01$.

The analysis of the second part of the questionnaire revealed that the participants like both Treatment DB (isolated teaching) and DD (integrated teaching), but they preferred the teacher to use Treatment DB. They seemed to believe Treatment DB could help them remember word spelling better. Both approaches on vocabulary learning were proved to be helpful in the learners' remembering word meaning and usage, and understanding the reading text. Figure 4.6 displays the visual presentation of the participants' attitudes toward the two treatments.



Note. 1 = I like the treatment; 2 = I hope that the teacher uses this method often. 3 = The treatment helps me remember the word spelling; 4 = remember the word meaning; 5 = remember the word usage; 6 = understand the reading text.

Figure 4.6 The Means of the Participants' Attitudes toward Treatment DB and DD

The reason why the participants favored isolated teaching might be that they could focus wholly on the target words when the words were taught before reading. In contrast, when target words with example sentences were learned in reading, they had to focus on both the reading text and vocabulary instruction. As a result, they might consider the vocabulary instruction in reading a distraction from the reading passage.

CHAPTER FIVE

CONCLUSIONS

This chapter concludes the study by first summarizing the study and major findings and then presenting the pedagogical implications of the study. The chapter ends with a discussion of limitations of this study and suggestions for further research.

5.1 Summary of the Study and Major Findings

This study aimed to investigate the effectiveness of learning two types of example sentences, namely, example sentences following the dictionary entry format and example sentences adapted from the reading text, on vocabulary learning and retention. It also explored the differences between isolated vocabulary teaching prior to reading and integrated vocabulary teaching in reading. Moreover, the study probed the participants' attitude towards learning example sentences as well as isolated and integrated vocabulary teaching. The participants were 73 first-year students of two intact classes in a vocational high school in central Taiwan. The three articles of similar difficulty levels were used as the reading materials during the treatments with 12 words selected from each article as the target words. The three treatments were given to both classes, including teaching vocabulary with example sentences following the dictionary entry format before reading instruction, teaching vocabulary with example sentences following the dictionary entry

format during reading instruction, and teaching vocabulary with example sentences adapted directly from the reading text before reading instruction. A vocabulary matching posttest was administered immediately at the end of each treatment to explore the effectiveness of the treatment on vocabulary learning. A delayed posttest was conducted two weeks after each treatment to examine vocabulary retention. In addition, a questionnaire investigating the participants' attitudes toward learning example sentences as well as isolated and integrated vocabulary learning was arranged a week after the final delayed posttest.

The results of the current study showed that explicit vocabulary teaching with example sentences before or during reading had positive effects on vocabulary learning and retention. Furthermore, the results indicated that among the three treatments, teaching vocabulary with example sentences adapted directly from the reading text prior to reading was the most effective on vocabulary learning. However, no significant difference existed among the three treatments in regards to vocabulary retention.

The findings of the current study showed no significant difference between the effectiveness of isolated vocabulary teaching before reading and integrated vocabulary teaching during reading on vocabulary learning and retention. The participants preferred isolated vocabulary teaching before reading to integrated vocabulary teaching during reading. Most participants believed that isolated vocabulary teaching was more beneficial

for vocabulary learning than integrated teaching. The results of the questionnaire indicated that the participants had positive attitudes toward learning example sentences. Most participants agreed that learning example sentences helped them understand and remember the meaning as well as the usage of the word in context.

5.2 Pedagogical Implications

Previous research has proven the effectiveness of explicit vocabulary learning activities in reading on vocabulary learning and retention (Guo, 2010; Hulstijn & Laufer, 2001; Kim, 2007; Min, 2008; Schmitt & Sonbal, 2009). Also, the benefits of learning example sentences for vocabulary learning and retention have been proven in previous studies (Adams & File, 2010; Baleghizadeh & Shahry, 2011; Webb, 2008; Zhang, 2009). The findings of the current study not only provide evidence for the effectiveness of learning vocabulary example sentences in reading but also prove further the advantages of learning example sentences adapted from the reading text on vocabulary learning and retention. Hence, some pedagogical implications on vocabulary teaching and example sentences are proposed.

First, teachers are strongly recommended to include explicit vocabulary teaching when instructing reading texts as explicit vocabulary teaching in reading help reinforce the words learned in the reading texts. In addition, it is suggested that teachers provide

example sentences when teaching vocabulary because of the positive effects of studying example sentences on vocabulary learning and retention. By providing learners with the instruction of example sentences, they have a better chance to learn and retain the meaning and the usage of a target word. By teaching example sentences, teachers help learners increase vocabulary knowledge to cope with different reading materials.

Furthermore, teachers are suggested to offer learners example sentences adapted from the reading text when teaching vocabulary before the reading passage. The positive effects of example sentences adapted from the reading text on vocabulary learning and retention should be recognized. By teaching example sentences adapted from the reading text, learners have the opportunity to preview the reading text. By doing so, the teacher may increase the readability of the reading text and help boost learners' confidence in reading and promote the learning efficiency of vocabulary as well. As example sentences following dictionary entry format are provided in most high school English textbooks in Taiwan currently, textbook publishers are also encouraged to offer example sentences adapted directly from the reading text based on the empirical evidence of this study.

Finally, in view of the insignificant difference between isolated vocabulary teaching before reading and integrated vocabulary teaching during reading concluded in the current study, both teaching approaches are recommended for teachers when instructing vocabulary in a reading passage. Teachers may adopt either of the teaching approaches

depending on the needs of the class. When the target words with example sentences are taught before reading, teachers are able to direct the learners' attention fully to the target words. On the other hand, when words with example sentences are instructed during reading, teachers allow learners to acquire the meaning of a word and apply it to the reading context simultaneously. In this way, reading comprehension may be promoted though learners have to distract their attention from the reading passage to the study of the target words.

5.3 Limitations of the Study

Though this study makes contributions to learning example sentences and the timing of vocabulary teaching in reading instruction, it has some limitations. They are stated as follows.

The first limitation is the assignment of the participants. The ideal way for assigning participants is to select participants from different classes and assign them randomly to groups. However, the reorganization of the classes may cause disturbance to the teaching and learning programs of the school. That was the reason why two intact classes were recruited as participants in the current study.

Second, although three articles were used as reading materials in the current study, only two articles were taught in each treatment. As a result, when a comparison was made

among the three treatments, the scores of the immediate posttests and delayed posttests of two articles were used. Regardless of the similarity of difficulty of the three articles, it is ideal to include the scores of the posttests of the three articles to make a complete comparison.

Third, the importance of repeated exposure to target words for vocabulary gains has been asserted by researchers (Chen & Truscott, 2010; Pellicer-Sanchez & Schmitt, 2011; Takari & Waring, 2003). However, the current study failed to explore the advantages of reviewing the target words and example sentences on vocabulary retention since the target words and example sentences were not reviewed after the treatments.

Finally, the current study employed a vocabulary-matching test as the immediate posttest and delayed posttest to examine the effectiveness of vocabulary learning and retention. No test on reading comprehension was administered to the participants. As the treatments in the current study involved vocabulary teaching and reading instruction, a reading comprehension test would investigate the effectiveness of the two types of example sentences and different timing of vocabulary assistance on reading comprehension.

5.4 Suggestions for Further Research

On the basis of aforementioned limitations, some suggestions for further research are offered. They are listed as follows.

In view of the limitation of assignment of participants in the current study, future studies might want to include experimental groups with similar English proficiency instead of convenient samples to further ensure the validity of the research findings.

In addition, since only the scores of the immediate posttests and delayed posttests of two articles were used for comparison in the current study, the inclusion of a third experimental group is recommended for future studies of similar research design. With three experimental groups, all three articles could be taught in each treatment and the comparison of the three treatments will be complete, as the test scores of all the three articles in each treatment will be compared.

Furthermore, no review of the target words and example sentences were given to the participants after the treatments. To examine the effectiveness of reviewing on vocabulary retention, the inclusion of a second delayed posttest a few weeks after the first delayed posttest as well as a review session on the target words and example sentences between the two delayed posttests is suggested for further research.

Finally, the current study only explores vocabulary learning and retention by using vocabulary-matching test. Researchers of future studies may incorporate a reading

comprehension test to examine the effectiveness of the two types of example sentences taught before and during reading on reading comprehension.

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APPENDICES

Appendix A

The Consent Form (Chinese Version)

同意書

各位同學好：

感謝你們參與本研究!本研究目的在於了解例句教學對於單字學習的效果。在研究過程，同學們將接觸到不同的例句教學方式。本研究結果僅供學術論文研究之用，與學期成績無關。同學的身分將以亂碼編號，姓名等個人資料將被裁剪掉。在做任何分析時，同學的身分將無法辨識。同學們的參與將有助於老師更有效的應用例句於單字教學。

學生姓名：_____

英文老師田秀桃

中華民國 101 年 2 月

Appendix B

The Consent Form (English Version)

The Consent Form

Dear Students,

Thank you for participating in this study. In the study, you will experience different approaches to learning vocabulary through example sentences. The results of the study are for research purposes for an academic thesis. It will not have any influence on your school grades. Your name, school number, and other personal information will be removed from the tests employed in the study. During the analysis, your identity will not be recognized. Your participation will contribute greatly to the teacher's instruction of example sentences in vocabulary teaching.

Name: _____

Hsiu Tao Tien
English Teacher

02, 2012

Appendix C

Article *Music* and Its Vocabulary Lists

Where's That Music Coming From?

What is your favorite type of music? Do you know anything about its history? Over the years, as people have moved or traveled, they have taken with them, the music of their cultures-Celtic folk from Ireland and the U.K., flamenco from Spain, or bhangra from India. As a result, a lot of today's popular music has its roots in the traditional songs and rhythms heard in various countries around the world.

For decades, musicians have **adapted** traditional musical styles to make them more **appealing** to average people. Bob Marley made reggae, previously unique to Jamaica, popular around the world in the 1970s and '80s, with hits like "No Woman, No Cry." Now, one can hear this laid-back **rhythm** on beaches across the globe.

Bhangra, a traditional music originally played to celebrate harvests or weddings in Indian villages, was brought to the U.K. by Indian **immigrants**. It became popular in the 1980s as the Indian immigrant **population** grew. This lively, energetic, drum-based beat has been mixed with other musical **genres** such as jazz, house and rock. Bhangra influence can now be heard on dance floors in cities like London and Singapore where a high percentage of the population comes from Indian immigrant families.

In the U.S., rock and roll has its roots in African-American culture, and traditional musical styles such as rhythm and blues. In the late 1940s and early 1950s, artists such as Chuck Berry added the electric guitar to the R&B sound. By the mid-'50s many white musicians, such as Elvis Presley, were singing and playing music that was **previously** performed only by black artists. Many DJs in the U.S. also began playing this "new" music, now called rock and roll, on their radio stations. A sound that began in small nightclubs in the U.S. was eventually exported to other parts of the world.

Language has helped to **popularize** music from different countries. The Japanese pop star Hikaru Utada became famous in her native country, and around the world, by **combining** Japanese pop styles with English lyrics. Other artists, such as the Spaniard Enrique Iglesias, mix English **lyrics** with their native languages, and have also made a big impact on the world pop scene.

Much of the pop music we hear today is a **fusion**, or mixture, of styles from various parts of the world. With the ability now to share music using the Internet, the styles we listen to tomorrow may be even more interesting and **diverse**.

Vocabulary List A: Target words with example sentences following the dictionary entry format compiled by the researcher

Where's That Music Coming From?

1. **adapt** (v.) to fit, change, or modify to suit a new or different purpose; 改編
Few people know that the movie is **adapted** from a novel, which was popular in 1960s.
2. **appealing** (adj.) attractive or pleasing; 吸引人的
Jack accepted his new job as the large salary the company offered was **appealing** to him.
3. **rhythm** (n.) a flow of sound in music having regular accented beats; 節奏
The little girl moves to the **rhythm** of the music every time she listens to her favorite CD.
4. **immigrant** (n.) a person who comes to a country to live there; 移民
Most of the **immigrants** from China to the U.S. still observe their traditions, like giving lucky money to children during Chinese New Year.
5. **population** (n.) the whole number of people living in a country or region; 人口
The **population** of the city has been increasing, which has resulted in a shortage of housing.
6. **genre** (n.) kind, category, or sort, esp. of literary or artistic work; 類型
Science fiction is a popular **genre**. It appeals to both young and old generations.
7. **previously** (adv.) going before in time or order; 先前的
We went to the same hotel where we had stayed **previously**.
8. **popularize** (v.) to make popular; 使...普及
The man had studied rugby in Europe before returning to his hometown in Africa to **popularize** the new sport there.
9. **combine** (v.) to become one; 結合
Students like Mr. Wang's class as he often **combines** learning with fun.
10. **lyrics** (n.) the words of a popular song; 歌詞
He wrote some great music, but the **lyrics** to the songs weren't that good.
11. **fusion** (n.) a process in which different styles, ideas, designs, etc. combine to form something new; 融合
The website is a **fusion** of fun and learning. No wonder lots of children love it.
12. **diverse** (adj.) having variety; 多樣化的
As a result of globalization, society is now much more **diverse** than ever before.

Vocabulary List B: Target words with example sentences adapted from the reading text

Where's That Music Coming From?

1. **adapt** (v.) to fit, change, or modify to suit a new or different purpose; 改編
For decades, musicians have **adapted** traditional musical styles to make them more appealing to average people.
2. **appealing** (adj.) attractive or pleasing; 吸引人的
For decades, musicians have adapted traditional musical styles to make them more **appealing** to average people.
3. **rhythm** (n.) a flow of sound in music having regular accented beats; 節奏
Now, one can hear this laid-back **rhythm**, reggae, on beaches across the globe.
4. **immigrant** (n.) a person who comes to a country to live there; 移民
Bhangra, a traditional music originally played to celebrate harvests or weddings in Indian villages, was brought to the U.K. by Indian **immigrants**.
5. **population** (n.) the whole number of people living in a country or region; 人口
Bhangra influence can now be heard on dance floors in cities like London and Singapore where a high percentage of the **population** comes from India.
6. **genre** (n.) kind, category, or sort, esp. of literary or artistic work; 類型
This lively, energetic, drum-based beat has been mixed with other musical **genres** such as jazz, house and rock.
7. **previously** (adv.) going before in time or order; 先前的
By the mid-1950s many white musicians were singing and playing music that was **previously** performed only by black artists.
8. **popularize** (v.) to make popular; 使...普及
Language has helped to **popularize** music from different countries.
9. **combine** (v.) to become one; 結合
The Japanese pop star Hikaru Utada became famous around the world, by **combining** Japanese pop styles with English lyrics.
10. **lyrics** (n.) the words of a popular song; 歌詞
The Japanese pop star Hikaru Utada became famous in her native country, and around the world, by combining Japanese pop styles with English **lyrics**.
11. **fusion** (n.) a process in which different styles, ideas, designs, etc. combine to form something new; 融合
Much of the pop music we hear today is a **fusion**, or mixture, of styles from various parts of the world.
12. **diverse** (adj.) having variety; 多樣化的

With the ability now to share music using the Internet, the styles we listen to tomorrow may be even more interesting and **diverse**.

Appendix D

Article *Body's Limits* and Its Vocabulary Lists

Beyond the Body's Limits

At the Sydney Olympics in 2000, a British man, Steve Redgrave, showed the world how **resilient** the human mind and body are. At the Olympics, athletes **demonstrate** both their athletic skills and their strength. In Sydney, Steve Redgrave and the British rowing team won the gold medal. He beat every other rowing team in the world-and **coped** with two very serious illnesses.

Redgrave was one of the world's top rowers, with Olympics medals from 1984, 1988, 1992, and 1996, as well as nine World Championship medals. Then suddenly, he faced two serious health problems. In 1997, he had **surgery** for appendicitis, and was unable to row for a time after the operation. The next year, he was **diagnosed** with diabetes, a severe problem for an athlete. People with diabetes need to watch their diet and exercise very carefully, and give themselves daily **injections** of insulin to control their blood sugar.

“My first thought was that my rowing career was at an end,” Redgrave said. But instead of giving up rowing-a very physically demanding sport-he decided to continue the **exhausting** training for the Olympics, even though his body was sick. He had to test his blood sugar many times every day.

Athletes often push themselves to the limits of physical and mental **endurance** by regularly trying to go faster, higher, and further in their chosen sport than any other athlete has in the past. Many spend weeks or months **recovering** from damage they have done to their bodies in training.

Athletes are not the only people who put great stress on their bodies. There are certain occupations that test a person's endurance and put a greater **strain** on one's health. Astronauts, for example, suffer from loss of calcium and other important minerals in their bones almost as soon as they go into space. Many astronauts also lose bone density and muscle strength while in space. This occurs because they are floating, rather than walking, for long periods of time. For this reason, when an astronaut returns to earth, he or she may have difficulty walking.

Astronauts and athletes use great courage and **determination** to overcome the limits of the human body. At the Sydney Olympic Game, Steve Redgrave and his team rowed to victory, and his fifth Olympic gold medal. It was an amazing **achievement** for Redgrave-and it showed the world what the human body can endure.

Vocabulary List A: Target words with example sentences following the dictionary entry format compiled by the researcher

Beyond the Body's Limits

1. **resilient** (adj.) recovering easily and quickly from shock, illness, hardship; 有迅速復原力的; 強壯的
Regardless of the injury, the **resilient** player remained on the field until the end of the game.
2. **demonstrate** (v.) to show clearly; 證明
This terrible car crash **demonstrates** the danger of drunk driving.
3. **cope** (v.) to deal successfully with or handle a situation; 應付
The new government has to **cope** with the problems of homelessness.
4. **surgery** (n.) the work done by a surgeon; 外科手術
He was in **surgery** for two hours on Thursday. That is why he feels weak now.
5. **diagnose** (v.) to examine (a person or thing), as for a disease; 診斷
Her condition was wrongly **diagnosed** by the doctor. In fact, she was not sick at all.
6. **injection** (n.) the act of injecting; 注射
The **injection** relieved the soldier's pain and helped him sleep. He felt energetic after waking up.
7. **exhausting** (adj.) tire out; 精疲力竭的
The man longed for a good night sleep after taking the **exhausting** journey.
8. **endurance** (n.) the ability to withstand hardship, adversity, or stress; 耐力
Before climbing Mt. Jade, Jack swam four hours a day to improve his **endurance**.
9. **recover** (v.) to regain (health, spirits, etc.), as after illness or a setback; 恢復
After a few days of fever, she began to **recover** slowly.
10. **strain** (n.) feeling of tension and tiredness resulting from overwork, worry, etc.; 壓力; 負擔
The boss could see that Gina had been under a lot of **strain**. So, he suggested that she take a few days off.
11. **determination** (n.) firm or fixed intention; 決心
The president's speech revealed a clear **determination** to rebuild the city damaged by the earthquake.
12. **achievement** (n.) something that has been accomplished, esp. by hard work or ability; 成就
She was given a prize for her **achievements** in designing of the building.

Vocabulary List B: Target words with example sentences adapted from the reading text

Beyond the Body's Limit

1. **resilient** (adj.) recovering easily and quickly from shock, illness, hardship; 有迅速復原力的; 強壯的
At the Sydney Olympics in 2000, a British man, Steve Redgrave, showed the world how **resilient** the human mind and body are.
2. **demonstrate** (v.) to show clearly; 證明
At the Olympics, athletes **demonstrate** both their athletic skills and their strength.
3. **cope** (v.) to deal successfully with or handle a situation; 應付
He beat every other rowing team in the world-and **coped** with two very serious illnesses.
4. **surgery** (n.) the work done by a surgeon; 外科手術
In 1997, he had **surgery** for appendicitis, and was unable to row for a time after the operation.
5. **diagnose** (v.) to examine (a person or thing), as for a disease; 診斷
The next year, he was **diagnosed** with diabetes, a severe problem for an athlete.
6. **injection** (n.) the act of injecting; 注射
People with diabetes need to watch their diet and exercise very carefully, and give themselves daily **injections** of insulin to control their blood sugar.
7. **exhausting** (adj.) tire out; 精疲力竭的
He decided to continue the **exhausting** training for the Olympics, even though his body was sick.
8. **endurance** (n.) the ability to withstand hardship, adversity, or stress; 耐力
Athletes often push themselves to the limits of physical and mental **endurance** by regularly trying to go faster, higher, and further than any other athlete has in the past.
9. **recover** (v.) to regain (health, spirits, etc), as after illness or a setback; 恢復
Many athletes spend weeks or months **recovering** from damage they have done to their bodies in training.
10. **strain** (n.) feeling of tension and tiredness resulting from overwork, worry, etc; 壓力; 負擔
There are certain occupations that test a person's endurance and put a greater **strain** on one's health.
11. **determination** (n.) firm or fixed intention; 決心
Astronauts and athletes use great courage and **determination** to overcome the limits of the human body.

12. **achievement** (n.) something that has been accomplished, by hard work or ability; 成就

It was an amazing **achievement** for Redgrave-and it showed the world what the human body can endure.

Appendix E

Article *Work* and Its Vocabulary Lists

Work Hard, Play Hard?

People today seem to have increasingly **hectic** lifestyles. Results of 2001 Harris Poll on free time, **conducted** in the United States, showed that the average workweek for many Americans is fifty hours. In addition, many people spend up to two or three hours a day **commuting** to and from work. With the time spent eating, sleeping, taking care of household **chores**, and looking after the family, there is little time left for leisure activities for many Americans.

However, having free time to relax and **pursue** hobbies and interests is important, and good for a person's **well-being**. People need time away from the pressures of study or work in order to relax, and enjoy time with friends and family.

In different countries and cultures around the world free time is spent in different ways. The results of the Harris Poll showed that reading was the most popular spare-time activity in the United States. This was followed by watching TV, then spending time with family. In a U.K. **survey** on leisure-time activities, watching TV and videos was the most popular pastime; listening to the radio came second. In a similar survey conducted in Japan, the most popular free-time activity was eating out. The second most popular activity was driving. Karaoke, which ranked fourth, was more popular than watching videos, which came fifth. Listening to the radio or music ranked sixth.

There were also differences in the most popular outdoor pursuits between the three countries. The most popular outdoor activity for Americans was gardening. In the U.K., it was going to the pub, followed by visiting the **cinema**. In Japan, going to bars and pubs **ranked** eighth in popularity, and gardening ranked ninth.

Although people around the world may enjoy doing similar things in their free time there is **evidence** to suggest that these interests are changing. In the U.S., for example, the popularity of computer activities is increasing. Many more people in the States are spending their free time surfing the Web, e-mailing friends, or playing games online. In the 2004 Harris Poll, computer activities ranked sixth in popularity; In 1995, only 2 percent of people mentioned them. **Currently**, listening to music is ranked eleventh. With more people downloading music from the Internet, it is possible that, in the future, music and computer activities will become the same **pastime** for many Americans.

Vocabulary List A: Target words with example sentences following the dictionary entry format compiled by the researcher

Work Hard, Play Hard?

1. **hectic** (adj.) filled with excitement, activity, or confusion 興奮的；忙亂的
She maintains a **hectic** schedule as a manager in a bank and a mother of three.
2. **conduct** (v.) to do or carry out; 指導
The scientist decided to **conduct** an experiment on the usage of solar energy.
3. **commute** (v.) to travel some distance regularly between one's home and one's place of work; 通勤
After having **commuted** from Taichung to Taipei for two years, Jack considered moving to Taipei.
4. **chore** (n.) the regular light work of a household or farm; 雜務
In my family, everyone has to do their share of the household **chores**. My brother and I, for instance, take turns making dinner.
5. **pursue** (v.) to engage in; 從事; 追求
Students should **pursue** their own interests, as well as do their school work.
6. **well-being** (n.) the state of being happy, healthy; 幸福
Parents have to pay attention to the physical and emotional **well-being** of the children.
7. **survey** (n.) a critical, detailed, and formal inspection; 調查報告
According to the **survey**, many young adults have experimented with drugs of some kind.
8. **cinema** (n.) a theater for showing movies ; 電影院
The **cinema** was filled with viewers every night for the new movie 'Mission Impossible'.
9. **rank** (v.) to take or have a certain position in a group; 把.....分等級
She **ranks** above any other musician of her generation. Her music is quite popular.
10. **evidence** (n.) something which shows that something else exists or is true; 證明
Available **evidence** points to pilot error as the cause of the plane crash.
11. **currently** (adv.) at the present time; 當今的；時下的
There is no cure for the disease **currently**. Hopefully, new treatment will be found in the future.
12. **pastime** (n.) an activity or entertainment which makes time pass pleasantly; 消遣
Cycling is an enjoyable **pastime** for people of all ages. It is also a good way to stay healthy.

Vocabulary List B: Target words with example sentences adapted from the reading text

Work Hard, Play Hard?

1. **hectic** (adj.) filled with excitement, activity, or confusion 興奮的；忙亂的
People today seem to have increasingly **hectic** lifestyles. Results showed that the average workweek for many Americans is fifty hours.
2. **conduct** (v.) to do or carry out; 指導
Results of the 2001 Harris Poll on free time, **conducted** in the United States, showed that the average workweek for many Americans is fifty hours.
3. **commute** (v.) to travel some distance regularly between one's home and one's place of work; 通勤
Many people spend up to two or three hours a day **commuting** to and from work.
4. **chore** (n.) the regular light work of a household or farm; 雜務
With the time spent eating, sleeping and taking care of household **chores**, there is little time left for leisure activities for many Americans.
5. **pursue** (v.) to engage in; 從事; 追求
Having free time to relax and **pursue** hobbies and interests is important, and good for a person's well-being.
6. **well-being** (n.) the state of being happy, healthy; 幸福
Having free time to relax and pursue hobbies and interests is important, and good for a person's **well-being**.
7. **survey** (n.) a critical, detailed, and formal inspection; 調查報告
In a U.K. **survey** on leisure-time activities, watching TV and videos was the most popular pastime.
8. **cinema** (n.) a theater for showing movies ; 電影院
In the U.K., the most popular outdoor activity was going to the pub, followed by visiting the **cinema**.
9. **rank** (v.) to take or have a certain position in a group; 把.....分等級
In Japan, going to bars and pubs **ranked** eighth in popularity, and gardening **ranked** ninth.
10. **evidence** (n.) something which shows that something else exists or is true; 證明
Although people around the world may enjoy doing similar things in their free time, there is **evidence** to suggest that these interests are changing.
11. **currently** (adv.) at the present time; 當今的；時下的
Currently, listening to music is ranked eleventh in popularity.
12. **pastime** (n.) an activity or entertainment which makes time pass pleasantly; 消遣

With more people downloading music from the Internet, in the future, music and computer activities may become the same **pastime** for many Americans.

Appendix F

The Lesson Plan for the Three Treatments

The lesson plan for the article *Music* in Treatment DB

a. <i>Aims, Skills</i> b. <i>Teaching / Learning Stages</i> c. <i>Time allocated</i>	<i>The Teacher's Activities</i> <i>(Setting tasks, methodological / didactical approaches / techniques)</i>	<i>The Pupil's Activities</i> <i>(Performing tasks, skill orientated language practice)</i>	<i>Teaching Material</i>
<p>1. Teach the 12 target words (adapt to diverse) one by one (25 minutes).</p> <p>2. Teach the reading passage (35 minutes).</p> <p>3. The immediate posttest (10 minutes).</p>	<p>e.g., adapt</p> <p>a. Pronounce the word</p> <p>b. Tell the students the part of speech, English and Chinese definition of the word.</p> <p>c. Ask the students to read aloud the example sentence: <i>Few people know that the movie is adapted from a novel, which was popular in 1960s.</i></p> <p>d. Explain the meaning of the example sentence.</p> <p>e.g., the first paragraph</p> <p>a. Read aloud each sentence and ask the students to repeat.</p> <p>b. Stop at the end of each paragraph.</p> <p>c. Discuss the main idea of the paragraph with the students by asking questions like <i>What's the main idea of the paragraph?</i></p> <p>a. Deliver the question sheet.</p>	<p>a. Repeat the word after the teacher.</p> <p>b. Listen to the teacher carefully.</p> <p>c. Read aloud the example sentences.</p> <p>a. Repeat after the teacher.</p> <p>b. Discuss the main idea of the paragraph with the teacher.</p> <p>a. Fill in the blanks on the quiz.</p>	<p>the vocabulary list; the reading article</p>

The lesson plan for the article *Body's Limits in Treatment* DB

<p>a. <i>Aims, Skills</i> b. <i>Teaching / Learning Stages</i> c. <i>Time allocated</i></p>	<p><i>The Teacher's Activities</i> (<i>Setting tasks, methodological / didactical approaches / techniques</i>)</p>	<p><i>The Pupils' Activities</i> (<i>Performing tasks, skill orientated language practice</i>)</p>	<p><i>Teaching Material</i></p>
<p>1. Teach the 12 target words (resilient to achievement) one by one (25 minutes).</p> <p>2. Teach the reading passage (35 minutes).</p> <p>3. The immediate posttest (10 minutes).</p>	<p>e.g., resilient</p> <p>a. Pronounce the word.</p> <p>b. Tell the students the part of speech, English and Chinese definition of the word.</p> <p>c. Ask the students to read aloud the example sentence: <i>Regardless of the injury, the resilient player remained on the field until the end of the game.</i></p> <p>d. Explain the meaning of the example sentence. e.g., the first paragraph</p> <p>a. Read aloud each sentence and ask the students to repeat.</p> <p>b. Stop at the end of each paragraph.</p> <p>c. Discuss the main idea of the paragraph with the participants by asking questions like <i>What's the main idea of the paragraph?</i></p> <p>a. Deliver the question sheet.</p>	<p>a. Repeat the word after the teacher.</p> <p>b. Listen to the teacher carefully.</p> <p>c. Read aloud the example sentences.</p> <p>a. Repeat after the teacher.</p> <p>b. Discuss the main idea of the paragraph with the teacher.</p> <p>a. Fill in the blanks on the quiz.</p>	<p>the vocabulary list; the reading article</p>

The lesson plan for the article *Body's Limits in Treatment* DD

<p>a. <i>Aims, Skills</i> b. <i>Teaching / Learning Stages</i> c. <i>Time allocated</i></p>	<p><i>The Teacher's Activities</i> (<i>Setting tasks, methodological / didactical approaches / techniques</i>)</p>	<p><i>The Pupils' Activities</i> (<i>Performing tasks, skill orientated language practice</i>)</p>	<p><i>Teaching Material</i></p>
<p>1. Teach the reading passage and the target words when they are encountered in the reading (60 minutes).</p> <p>2. Teach the target word.</p> <p>3. Continue to teach the paragraph.</p> <p>4. The immediate posttest (10 minutes).</p>	<p>e.g., the first paragraph</p> <p>a. Read aloud the first sentence and ask the students to repeat.</p> <p>b. Stop at the end of the sentence and draw the students' attention to the target word "resilient."</p> <p>a. Pronounce the word.</p> <p>b. Tell the students the part of speech, English and Chinese definition of the word.</p> <p>c. Ask the students to read aloud the example sentence: <i>Regardless of the injury, the resilient player remained on the field until the end of the game.</i></p> <p>d. Explain the meaning of the example sentence.</p> <p>a. Read the second sentence and ask students to repeat.</p> <p>b. Stop at the end of the paragraph.</p> <p>c. Discuss the main idea of the paragraph with the students by asking questions like <i>What's the main idea of the paragraph?</i></p> <p>a. Deliver the question sheet.</p>	<p>a. Repeat after the teacher.</p> <p>b. Look at the first target word in their vocabulary list.</p> <p>a. Repeat the word after the teacher.</p> <p>b. Listen carefully.</p> <p>c. Read aloud the example sentence.</p> <p>d. Listen to the teacher carefully.</p> <p>a. Repeat after the teacher.</p> <p>b. Discuss the main idea of the paragraph with the teacher.</p> <p>a. Fill in the blanks on the quiz.</p>	<p>the vocabulary list; the reading article</p>

The lesson plan for the article *Work in Treatment AB*

<p>a. <i>Aims, Skills</i> b. <i>Teaching / Learning Stages</i> c. <i>Time allocated</i></p>	<p><i>The Teacher's Activities</i> <i>(Setting tasks, methodological / didactical approaches / techniques)</i></p>	<p><i>The Pupils' Activities</i> <i>(Performing tasks, skill orientated language practice)</i></p>	<p><i>Teaching Material</i></p>
<p>1. Teach the reading passage and the target words when they are encountered in the reading (60 minutes).</p> <p>2. Teach the target word.</p> <p>3. Continue to teach the paragraph.</p> <p>4. The immediate posttest (10 minutes).</p>	<p>e.g., the first paragraph</p> <p>a. Read aloud the first sentence and ask the students to repeat.</p> <p>b. Stop at the end of the sentence and draw the students' attention to the target word "hectic."</p> <p>a. Pronounce the word.</p> <p>b. Tell the students the part of speech, English and Chinese definition of the word.</p> <p>c. Ask the students to read aloud the example sentence: <i>She maintains a hectic schedule as a manager in a bank and a mother of three.</i></p> <p>d. Explain the meaning of the example sentence.</p> <p>a. Read the second sentence and ask students to repeat.</p> <p>b. Stop at the end of the paragraph.</p> <p>c. Discuss the main idea of the paragraph with the participants by asking questions like <i>What's the main idea of the paragraph?</i></p> <p>a. Deliver the question sheet.</p>	<p>a. Repeat after the teacher.</p> <p>b. Look at the first target word in their vocabulary list.</p> <p>a. Repeat the word after the teacher.</p> <p>b. Listen carefully.</p> <p>c. Read aloud the example sentence.</p> <p>d. Listen to the teacher carefully.</p> <p>a. Repeat after the teacher.</p> <p>b. Discuss the main idea of the paragraph with the teacher.</p> <p>a. Fill in the blanks on the quiz.</p>	<p>the vocabulary list; the reading article</p>

The lesson plan for the article *Work in Treatment AB*

<p>a. <i>Aims, Skills</i> b. <i>Teaching / Learning Stages</i> c. <i>Time allocated</i></p>	<p><i>The Teacher's Activities</i> (<i>Setting tasks, methodological / didactical approaches / techniques</i>)</p>	<p><i>The Pupils' Activities</i> (<i>Performing tasks, skill orientated language practice</i>)</p>	<p><i>Teaching Material</i></p>
<p>1. Teach the 12 target words (hectic to pastime) one by one (25 minutes).</p> <p>2. Teach the reading passage (35 minutes).</p> <p>3. The immediate posttest (10 minutes).</p>	<p>e.g., hectic</p> <p>a. Pronounce the word.</p> <p>b. Tell the students the part of speech, English and Chinese definition of the word.</p> <p>c. Ask the students to read aloud the example sentence: <i>People today seem to have increasingly hectic lifestyles. Results showed that the average workweek for many Americans is fifty hours.</i></p> <p>d. Explain the meaning of the example sentence. e.g., the first paragraph</p> <p>a. Read aloud each sentence and ask the students to repeat.</p> <p>b. Stop at the end of each paragraph.</p> <p>c. Discuss the main idea of the paragraph with the participants by asking questions like <i>What's the main idea of the paragraph?</i></p> <p>a. Deliver the question sheet.</p>	<p>a. Repeat the word after the teacher.</p> <p>b. Listen to the teacher carefully.</p> <p>c. Read aloud the example sentences.</p> <p>d. Listen to the teacher carefully.</p> <p>a. Repeat after the teacher.</p> <p>b. Discuss the main idea of the paragraph with the teacher.</p> <p>a. Fill in the blanks on the quiz.</p>	<p>the vocabulary list; the reading article</p>

The lesson plan for the article *Music in Treatment* AB

<p>a. <i>Aims, Skills</i> b. <i>Teaching / Learning Stages</i> c. <i>Time allocated</i></p>	<p><i>The Teacher's Activities</i> (<i>Setting tasks, methodological / didactical approaches / techniques</i>)</p>	<p><i>The Pupils' Activities</i> (<i>Performing tasks, skill orientated language practice</i>)</p>	<p><i>Teaching Material</i></p>
<p>1. Teach the 12 target words (adapt to diverse) one by one (25 minutes).</p> <p>2. Teach the reading passage (35 minutes).</p> <p>3. The immediate posttest (10 minutes).</p>	<p>e.g., adapt</p> <p>a. Pronounce the word.</p> <p>b. Tell the students the part of speech, English and Chinese definition of the word. Ask the students to read aloud the example sentence: <i>For decades, musicians have adapted traditional musical styles to make them more appealing to average people.</i></p> <p>c. Explain the meaning of the example sentence. e.g., the first paragraph</p> <p>a. Read aloud each sentence and ask the students to repeat.</p> <p>b. Stop at the end of each paragraph.</p> <p>c. Discuss the main idea of the paragraph with the participants by asking questions like "What's the main idea of the paragraph?"</p> <p>a. Deliver the question sheet.</p>	<p>a. Repeat the word after the teacher.</p> <p>b. Listen to the teacher carefully.</p> <p>c. Read aloud the example sentences.</p> <p>d. Listen to the teacher carefully.</p> <p>a. Repeat after the teacher.</p> <p>b. Discuss the main idea of the paragraph with the teacher.</p> <p>a. Fill in the blanks on the quiz.</p>	<p>the vocabulary list; the reading article</p>

Appendix G

Pretest A

Name: _____

Student Number: _____

		A	B	C
	Word Item	I have never seen this word before.	I have seen this word before, but I don't know what it means.	I know this word, and it means_____.
1	adapt			
2	appealing			
3	rhythm			
4	immigrant			
5	population			
6	genre			
7	previously			
8	popularize			
9	combine			
10	lyrics			
11	fusion			
12	diverse			
13	resilient			
14	demonstrate			
15	cope			
16	surgery			
17	diagnose			
18	injection			
19	exhausting			
20	endurance			
21	recover			
22	strain			
23	determination			
24	achievement			
25	hectic			
26	conduct			

27	commute			
28	chore			
29	pursue			
30	well-being			
31	survey			
32	rank			
33	cinema			
34	evidence			
35	currently			
36	pastime			

Appendix H

Pretest B

Name: _____ (中文) _____ (英文) Number: _____

Please use the words below and match them to their corresponding sentences.

A. well-being B. previously C. recover D. ecstasy E. currently F. combine
G. chore

1. It'll take me an hour to do the household _____ (s). I have to wash the dishes and clean up the kitchen. (_____ *I don't know.*)
2. The Japanese pop star Hikaru Utada became famous in her native country, and around the world, by _____ (ing) Japanese pop styles with English lyrics. (_____ *I don't know.*)
3. There is no cure for the disease _____. Hopefully, new treatment will be found in the future. (_____ *I don't know.*)
4. Parents have to pay attention to the physical and emotional _____ of the children. (_____ *I don't know.*)
5. _____, she was too busy to work in her garden. Now she spends most of her free time there. (_____ *I don't know.*)
6. Many athletes spend weeks or months _____ (ing) from damage they have done to their bodies in training. (_____ *I don't know.*)

A. population B. strain C. symbolic D. hectic E. exhausting F. rhythm
G. commute

1. He decided to continue the _____ (ing) training for the Olympics, even though his body was sick. (_____ *I don't know.*)
2. After weeks of overtime, she was starting to feel the _____. She longed for a vacation. (_____ *I don't know.*)
3. He could not help dancing when he heard the exciting _____ (s) of African drum music. (_____ *I don't know.*)
4. As a result of typhoons and earthquakes, currently the country only has a _____ of 2 million. (_____ *I don't know.*)
5. Many people spend up to two or three hours a day _____ (ing) to and from work. (_____ *I don't know.*)
6. People today seem to have increasingly _____ lifestyles. Results showed that the average workweek for many Americans is fifty hours. (_____ *I don't know.*)

A. surgery B. adapt C. appealing D. cinema E. pastime F. brilliant
G. demonstrate

1. The president must _____ to the country that he is really in control of his government. (_____ *I don't know.*)
2. The _____ was filled with viewers every night for the new movie 'Mission Impossible'. (_____ *I don't know.*)
3. She had a car accident and needed a _____ on her right knee at once. (_____ *I don't know.*)
4. Cycling is an enjoyable _____ for people of all ages. It's also a good way to stay healthy. (_____ *I don't know.*)
5. This storybook has been _____ **(ed)** for teenagers. The original is much more difficult. (_____ *I don't know.*)
6. Spending a whole summer on the beautiful island, Bail, is a very _____ idea to me. (_____ *I don't know.*)

A. injection	B. diverse	C. popularize	D. fusion	E. diagnose	F. dignity
G. pursue					

1. The man had studied rugby in Europe before returning to his hometown in Africa to _____ the new sport there. (_____ *I don't know.*)
2. Much of the pop music we hear today is a _____, or mixture, of styles from various parts of the world. (_____ *I don't know.*)
3. As a result of globalization, society is now much more _____ than ever before. (_____ *I don't know.*)
4. After the nurse gave me the _____, my headache disappeared immediately. (_____ *I don't know.*)
5. Most parents in Taiwan hope that their children can _____ a career as a doctor. (_____ *I don't know.*)
6. Her condition was wrongly _____ **(ed)** by the doctor. In fact, she was not sick at all. (_____ *I don't know.*)

A. lyric	B. rank	C. claim	D. immigrant	E. achievement	F. determination
G. cope					

1. Jay is a musician who wrote the _____ **(s)** to our first song. (_____ *I don't know.*)
2. He beat every other rowing team in the world-and _____ **(ed)** with two very serious illnesses. (_____ *I don't know.*)
3. The girl shows great _____ to learn English by reading English newspapers every day. (_____ *I don't know.*)
4. She was the daughter of Chinese _____ **(s)** to America. Her grandfather moved from Beijing to New York fifty years ago. (_____ *I don't know.*)
5. She _____ **(s)** above any other musician of her generation. Her music is quite popular. (_____ *I don't know.*)

6. Winning the Gold Medal was an amazing _____ for Redgrave-and it showed the world what the human body can endure. (_____ *I don't know.*)

A. resilient	B. evidence	C. survey	D. conduct	E. duplicate	F. endurance	G. genre
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1. Running a marathon, which is about 43km, is seen by many as a great test of _____. (_____ *I don't know.*)
2. In a U.K. _____ on leisure-time activities, watching TV and videos was the most popular pastime. (_____ *I don't know.*)
3. The scientist decided to _____ an experiment on the usage of solar energy. (_____ *I don't know.*)
4. There is now clear _____ that global warming will cause the change of weather in many areas. (_____ *I don't know.*)
5. Regardless of the injury, the _____ player remained on the field until the end of the game. (_____ *I don't know.*)
6. This lively, energetic, drum-based beat has been mixed with other musical _____(s) such as jazz, house and rock. (_____ *I don't know.*)

Appendix I

The Immediate Posttests and Delayed Posttests

Posttest (Where's That Music Coming From?)

Name: _____ (中文) _____ (英文)

Number: _____

Please use the words below and match them to their corresponding sentences.

A. genre B. traditional C. adapt D. popularize E. rhythm F. restrain G. combine
H. immigrant

1. He could not help dancing when he heard the exciting _____(s) of African drum music.
2. The cook _____(s) eastern and western food by putting stinky tofu into a hamburger.
3. She was the daughter of Chinese _____(s) to America. Her grandfather moved from Beijing to New York fifty years ago.
4. Beethoven is recognized as a great musician in the _____ of classical music.
5. This storybook has been _____(ed) for teenagers. The original is much more difficult.
6. Bob Marley _____(ed) reggae music in the 1970s. Many people still listen to reggae nowadays.

A. population B. lyrics C. tendency D. fusion E. native F. diverse G. previously
H. appealing

7. This on-line bookstore sells a _____ range of books and electronic products.
8. _____, she was too busy to work in her garden. Now she spends most of her free time there.
9. As a result of typhoons and earthquakes, currently the country only has a _____ of 2 million.
10. His _____ of jazz, pop and blues has proved highly successful. Many people are attracted to the new style of music.
11. Jay is a musician who wrote the _____ to our first song, which is popular with teenagers.
12. Spending a whole summer on the beautiful island, Bail, is a very _____ idea to me.

Posttest (Beyond the Body's Limits)

Name: _____ (中文) _____ (英文)

Number: _____

Please use the words below and match them to their corresponding sentences.

A. endurance B. strain C. exhausting D. courage E. surgery F. proverb G. diagnose
H. injection

1. After a(an) _____ day at work, Jack went home directly to take a rest.
2. Running a marathon, which is about 43km is seen by many as a great test of _____.
3. The woman felt hopeless after she was _____ (**ed**) with skin cancer.
4. She had a car accident and needed a _____ on her right knee at once.
5. After working overtime for a month, she was starting to feel the _____. She longed for a vacation.
6. After the nurse gave me the _____, my headache disappeared immediately.

A. determination B. cope C. demonstrate D. resilient E. recover F. sanction
G. damage H. achievement

7. The girl shows great _____ to learn English by reading English newspapers every day.
8. As we reached the top of the mountain, we felt a sense of _____.
9. She has hardly _____ (**ed**) from the birth of her baby. She still feels weak now.
10. The president must _____ to the country that he is really in control of his government.
11. It was amazing how the single mother _____ (**ed**) with bringing up three children on ten thousand dollars a month.
12. After the earthquake, the villagers showed how _____ they were by rebuilding their hometown in a short period of time.

Posttest (Work Hard, Play Hard?)

Name: _____ (中文) _____ (英文)

Number: _____

Please use the words below and match them to their corresponding sentences.

A. well-being	B. survey	C. cinema	D. ecstasy	E. mention	F. rank	G. commute
H. currently						

1. _____, he is working on his new novel, which is expected to be finished next month.
2. Living in the village, the boy spends one hour _____ (**ing**) to school every day.
3. For your physical _____, you had better exercise more and eating less junk food.
4. Leonardo da Vinci, born in Italy, is _____ (**ed**) among the most famous artists in European history.
5. The _____ showed that drinking a little red wine before bed is good for one's health.
6. We decided to go to the _____ to watch the new Disney movie.

A. average	B. hectic	C. evidence	D. pursue	E. literature	F. chore	G. conduct
H. pastime						

7. Many people doubt if it is really necessary to _____ experiments on animals.
8. It'll take me an hour to do the household _____ (**s**). I have to wash the dishes and clean up the kitchen.
9. There is now clear _____ that global warming will cause the change of weather in many areas.
10. I want to take a hot bath to relax. I've had a pretty _____ day.
11. Reading is her favorite _____. She likes to read English novels and magazines.
12. Most parents in Taiwan hope that their children can _____ a career as a doctor.

Appendix J

The Questionnaire (Chinese Version)

各位同學：此問卷的用意是讓老師更了解你們對例句教學的看法。此問卷採無記名方式進行，請你用心回答下列問題。

	同 意	非 常 同 意	同 意	略 微 同 意	不 同 意	不 同 意 非 常
1. 當我準備單字考試時						
1-a 只專注背單字拼法，不會研究其發音或讀例句	5	4	3	2	1	
1-b 會研究其發音，並試著念念看	5	4	3	2	1	
1-c 會認真研讀單字表所列的例句	5	4	3	2	1	
2. 我覺得研究單字的發音，並試著念念看，能幫助我						
2-a 記住單字的拼法	5	4	3	2	1	
2-b 記住單字的真正意思	5	4	3	2	1	
2-c 記住單字的使用情境	5	4	3	2	1	
3. 我覺得研讀單字的例句，能幫助我						
3-a 留意單字的拼法	5	4	3	2	1	
3-b 了解單字的真正意思	5	4	3	2	1	
3-c 了解單字的使用情境	5	4	3	2	1	
3-d 記住單字的拼法	5	4	3	2	1	
3-e 記住單字的真正意思	5	4	3	2	1	
3-f 記住單字的使用情境	5	4	3	2	1	

教法 DB：老師先逐一講解每個單字及課文外的例句，然後再講解課文內容。

教法 DD：老師不先講解單字，但會在講解課文時，邊講解遇到的單字及課文外的例句。

4. 我喜歡教法 DB	5	4	3	2	1	
5. 我希望老師常常用這個方法教單字	5	4	3	2	1	
6. 因為我覺得教法 DB 可以幫助我：						
6-a 記住單字的拼法	5	4	3	2	1	
6-b 記住單字的真正意思	5	4	3	2	1	
6-c 記住單字的使用情境	5	4	3	2	1	
6-d 更理解課文	5	4	3	2	1	
7. 我喜歡教法 DD	5	4	3	2	1	
8. 我希望老師常常用這個方法教單字	5	4	3	2	1	
9. 因為我覺得教法 DD 可以幫助我：						
9-a 記住單字的拼法	5	4	3	2	1	
9-b 記住單字的真正意思	5	4	3	2	1	

9-c 記住單字的使用情境	5	4	3	2	1
9-d 更理解課文	5	4	3	2	1

Appendix K

The Questionnaire (English Version)

1. When I prepare for a vocabulary test,					
1-a I focus on memorizing the spelling of the words without studying the pronunciation of them and reading the example sentences.	5*	4	3	2	1
1-b I study the pronunciation of the words, and try to pronounce them.	5	4	3	2	1
1-c I study the example sentences listed with the vocabulary.	5	4	3	2	1
2. I think that studying the pronunciation of the words and trying to pronounce them helps me					
2-a remember the spelling of the words.	5	4	3	2	1
2-b remember the exact meaning of the words	5	4	3	2	1
2-c remember the usage of the words in the contexts	5	4	3	2	1
3. I think that studying the example sentences of the vocabulary helps me					
3-a pay attention to the spelling of the words.	5	4	3	2	1
3-b understand the exact meaning of the words.	5	4	3	2	1
3-c understand the usage of the words in the contexts.	5	4	3	2	1
3-d remember the spelling of the words.	5	4	3	2	1
3-e remember the exact meaning of the words.	5	4	3	2	1
3-f remember the usage of the words in the contexts.	5	4	3	2	1

Treatment DB: The teacher instructs each new word with example sentence following the dictionary entry format first and then explains the reading text.

Treatment DD: The teacher explains the reading text and then instructs each new word with example sentence following the dictionary entry format when it is encountered in reading.

4. I like Treatment DB	5	4	3	2	1
5. I hope that the teacher uses this method to teach vocabulary often	5	4	3	2	1
6. because I think Treatment DB helps me					
6-a remember the spelling of the words.	5	4	3	2	1
6-b remember the exact meaning of the words.	5	4	3	2	1
6-c remember the usage of the words in the contexts.	5	4	3	2	1
6-d understand the reading text.	5	4	3	2	1
7. I like Treatment DD	5	4	3	2	1
8. I hope that the teacher uses this method to teach vocabulary often	5	4	3	2	1

9. because I think Treatment DD helps me					
9-a remember the spelling of the words.	5	4	3	2	1
9-b remember the exact meaning of the words.	5	4	3	2	1
9-c remember the usage of the words in the contexts.	5	4	3	2	1
9-d understand the reading text.	5	4	3	2	1

Note. 5= strongly agree; 4=agree; 3=slightly agree; 2=disagree; 1=strongly disagree