

Chapter Three

Method

Owing to the limitation of the keyword method, the present study is designed to explore the effectiveness of the dual coding of its imagery part, i.e., pictures drawn by the students, as well as the word lists provided by the instructor. To these ends, a well-planned study was designed. The subjects, the variables, the research statement, the materials, and the procedures involved in the study will also be described in the next section.

3.1 Subjects

A total of eighty-nine Taiwanese senior high school freshmen from two classes in Ping-jing Senior High School in Taoyuan County were assigned to participate in the study. The students had received three years of formal English instruction in junior high school before they entered senior high school and they acquired approximately around 1000 words in junior high school.

There was almost no difference in the subjects' English proficiency level between the two classes. For one thing, according to their entrance examination scores, most of the freshmen in Ping-jeng High School belonged to the intermediate or low level compared to other students participating in the Joint Entrance Exam. For another, the freshmen in Ping-jing High School were distributed normally to each class. Nevertheless, to make sure that their English proficiency was almost equal, before the experiment, the subjects would take an English Proficiency Test, the elementary level of GEPT to further verify that there was no significant difference in the two groups.

The reason why senior freshmen were selected as the subjects of this study was that they were facing a new challenge of learning English. Since they didn't learn many words in junior high school, they would have much more difficulty in learning English when they encountered much more vocabulary and longer complicated texts in the first year of senior

high school. Some intermediate and low level students would even tend to give up English because to memorize vocabulary both in quality and in quantity was a huge task for them to handle. Even if they were trying hard to rote learn vocabulary in a short time to deal with tests, they would forget the words a few days later. This vicious circle caused them to hate and give up English easily and quickly. It was urgent to provide some useful and helpful vocabulary learning strategies for them to deal with the difficult task of learning new English vocabulary.

3.2 Experimental Design

One of the two classes was assigned as the experimental group (N=45) and the other as the control group (N=44). The students in the experimental group were under the instruction of the traditional teaching method plus drawing while those in the control group were under the traditional teaching method only. After each experimental treatment, word quizzes were given. When all the experimental treatments were done, a periodical exam would be given, too. Their scores of the word quizzes and the vocabulary section in the first periodical exam would be compared through statistical analysis. Table 3.1 described the variables included in the study (dependent variable: scores; independent variable: treatment).

Table 3.1

The Experimental Design

Independent variable Dependent variable	Treatment: Teaching Method	
	Teaching with drawing	Teaching without drawing
Scores(quizzes & the first periodical exam)	1. Immediate Quizzes: 1, 2, 3, 4- Part A, Part B 2. Delayed Quizzes: 1, 2, 3, 4-Part A, Part B 3. Vocabulary section in the first periodical exam	1. Immediate Quizzes: 1, 2, 3, 4-Part A, Part B 2. Delayed Quizzes: 1, 2, 3, 4-Part A, Part B 3. Vocabulary section in the first periodical exam

3.3 Hypothesis

We hypothesize that the students in the experimental group would perform better than the students in the control group on all the tests. Moreover, the students in both groups perform better on Part A, i.e., the recognition part, than on Part B, i.e., the production part. And the students in the experimental group would take a positive attitude toward vocabulary learning prescribed by the present author.

3.4 Materials and Equipments

This study used materials such as an English proficiency test, four immediate word quizzes, four delayed word quizzes, and one periodical exam in both groups. Besides, an English textbook—Lung Tung Edition—Book I would be used in the control group, while four word lists were used in the experimental group only. Equipments like a projector, a tape-recorder would also be adopted in the experimental group only.

3.4.1 English Proficiency Test

The English Proficiency Test was designed to test the subjects' English reading proficiency and to make sure the English ability of the students of the two groups showed no significant difference. All the items in the English Proficiency Test were selected from the reading proficiency part of the elementary level of GEPT (See Appendix A). As the elementary level of GEPT has been claimed as having high validity as a measure of English proficiency for junior high school graduates, we feel it would be suitable for the freshmen in senior high school.

The test was made up of three sections with thirty-five items totally— fifteen items for vocabulary and structure, ten items for cloze test, and ten items for reading comprehension. The subjects had to choose only one correct answer for each item. The time given for the subjects to finish answering all the items was thirty-five minutes and

the full scores for the test would be 120 points.

3.4.2 An English Textbook-Lung Tung Edition-Book I

The students in the control group received traditional vocabulary teaching method, i.e., explaining the definition, translating the meaning of the word and the sentence it occurs in into Chinese and giving more information about the target word such as its derivation, part of speech, collocation, etc. without any special activity. The teaching materials used in the control group were selected from the first four lessons of their textbook, Lung Tang Edition-Book I. Each lesson contained the vocabulary section, in which all the information about the target words was provided such as definition, derivation, part of speech and sentences with the target words. The vocabulary items in the four lessons were included in the coverage of the first periodical exam. Therefore, Lesson One, Two, and Four were taught one by one according to the school timetable, but the students were required to learn and memorize the words in Lesson Three by themselves because the instructor didn't have enough time to cover all of the four lessons due to limited time.

3.4.3 Word Lists

Four word lists (See Appendix B) prepared for the experimental group were designed according to the first four lessons of the subjects' English textbook—Lung Tung Edition—Book I. The words in the first four lessons were listed in four word lists respectively, e.g., the first word list consisted of 15 words from Lesson One; the second word list 17 from Lesson Two; the third word list 15 from Lesson Three and the fourth 18 from Lesson Four. Those words had to be memorized by the students to cope with the first periodical exam.

Each word in the word list contained those elements copied from the textbook,

including English and Chinese definition, its part of speech, its derivations, pronunciation, and the sentences the target word occurred in. Besides, the definition and part of speech of each word were given according to the context of the lesson the word occurred in. Moreover, since the students in the experimental group were required to draw, there was some space left behind each word in their word lists. The instructor taught the vocabulary items in Word List One, Two, and Four according to the school timetable, but had the students learn and draw for the words in Word List Three by themselves. All the words in the four word lists were included in the coverage of the first periodical exam

3.4.4 Word Quizzes and One Periodical Exam

According to the four word lists, the instructor designed four immediate word quizzes (IWQ) to examine how many words could stay in the subjects' short term memory in both groups and four delayed word quizzes (DWQ) to examine how many words could stay in the subjects' long term memory in both groups (See Appendix C). DWQ included the same tested items as those in IWQ. The only difference between them was the order of the items. Each word quiz was composed of two parts—one was the recognition part and the other the production part. The recognition part required students to translate the target words into Chinese. According to Nation (1990), "items which require the learners to provide a mother-tongue equivalent are the best types of recognition items." This kind of activity was very similar to what the learners did in class. Besides, through translation a quick check of learning was provided.

The instructor chose tested vocabulary items from each word list. And there were 14 recognition items in IWQ 1, 2, 4 and 12 ones in IWQ 3. As to the scoring for IWQ 1, 2, 4, from the first one to the tenth, eight points would be given to each correct item, and from the eleventh one to the fourteenth, five points would be given to each correct item. Because the total score of each word quiz was one hundred points and the number of the

tested items in IWQ 3 (12 items) was different from the other three word quizzes (14 items), the scoring for IWQ 3 was a little different from the previous one. For the sake of convenience, from the first one to the tenth, eight points would be also given to each correct item, but ten points would be given to each correct item from the eleventh one to the twelfth.

Another part of Word Quiz was to test the productive ability of the learners. The subjects were required to write down the missing target word when a sentence context was given. The initial letter and the last letter or just the initial letter of the target word would be given to provide some clues for the test takers to guess the proper word, which could help form a meaningful sentence. The number of the productive items in each word quiz was the same as the number of the recognition ones except IWQ2 (Part A: 14 items; Part B: 12 items). Therefore, as to the scoring for the productive items in IWQ 1, 3, 4, we also did the same as the recognition part in IWQ 1, 3, 4, but since the number of the tested items of the production part in IWQ2 was the same as that of IWQ3, we did the same as the scoring for IWQ3. Moreover, since there were the same tested items in DWQ 1, 2, 3, 4 as in IWQ 1, 2, 3, 4, the scoring for both the recognition and production parts in DWQ 1, 2, 3, 4 would be the same as we did in IWQ 1, 2, 3, 4.

Two parts in each word quiz, i.e., the recognition part and the productive part were tested respectively in case the students would guess the spelling of the words from the recognition part. IWQ 1, 2, 3, 4 were given immediately and separately after the instructor finished the vocabulary part in each lesson, while DWQ 1, 2, 3, 4 were given separately after the subjects had already taken IWQ 1, 2, 3, 4.

After finishing the four lessons, there was a periodical exam. The vocabulary section in the exam would be served as the test material of the study, too. The vocabulary section included ten items and for the convenience's sake, the instructor gave each item ten scores, so the total score for the vocabulary section were also one

hundred points.

3.4.5 A Projector and Tape-recorder

The instructor had chosen some words from the text book and had had some students in the second grade draw pictures according to the meaning of the words, or the meaning of the sentences the words occurred in previously. The pictures were kept and to be shown to the subjects. A projector and slides were used to show those pictures to the subjects in the experimental group before the experimental treatment, making the subjects have a better understanding of what the experimental treatment was really like. In addition, to understand what the subjects in different levels, e.g., high, middle, and low level, thought of the experimental treatment, the instructor invited nine subjects from different levels to express their attitude to the study. Therefore, a tape-recorder would be served as the equipment to record their views on the study.

3.5 Procedures

Several steps were involved in the study. The first step was to prepare all the materials needed in the study including an English proficiency test, the word lists, word quizzes, etc. The second step was to invite the students in two classes to participate in the study---one as the experimental group and the other as the control group. Before the experimental teaching activities started, the instructor informed the subjects in both groups of what the study was and the importance of conducting the study, hoping the subjects could cooperate with the instructor well.

Thirdly, all the subjects needed to take an English proficiency test adapted from the elementary level of GEPT (See Appendix A). Then, the instructor scored the English proficiency test, using descriptive statistics to check if there was any significant difference in their English ability between the two groups.

Fourthly, the teaching activities were conducted in both groups. In the experimental

group, the instructor showed the subjects some already-made examples by means of slides. Each example represented a target word, its part of speech, the sentence it occurred in, and a picture drawn according to the meaning of the target word. Meanwhile, the instructor explained what the picture meant to the target word and told the subjects what they were going to do in the experimental treatment: they would be asked to draw according to the meaning of each word in the word list or the meaning of the sentence the target word occurred in after the instructor had explained each word.

Fifthly, the instructor would spend two periods in each of the groups explaining each target word through bilingual translation, i.e., Chinese and English in both groups. Those details involved in this step included the definition of the target word, its part of speech, some basic information about prefixes or suffixes of the target words, collocations and the meaning of the sentence the target word occurred in. For example, when the instructor introduced the target word *misunderstanding* in Lesson Two, she explained its meaning through both English and Chinese first and pointed out its part of speech as a *noun*. Besides, she judged the meaning of the prefix ‘mis’ as *badly, or wrongly* (Stockwell & Minkova, 2001), so the meaning of *misunderstanding* is “wrongly understanding.” At last, she explained the grammatical function of the target word and the usage of some useful phrases such as *because of* and *talk to* in the sentence “*They don’t talk to each other because of some misunderstanding*” and translated the sentence into Chinese.

Sixthly, after the explanation of each word by the instructor, the subjects in the experimental group were asked to draw according to the meaning of each word in the word list or the meaning of the sentence the target word occurred in. Since there was not much time left after the instructor taught all the words in the word list, the subjects would do the drawing partly in class and partly after school. In the control group, after the subjects listened to the instructor’s explicit explanation of each word in the textbook, they were just asked to review and repeat all the words taught in class. The same amount of

time was spent in both groups at this step. After finishing teaching vocabulary in each lesson, the instructor would ask the subjects in both groups to memorize those words in the textbook or in the word list and informed them that a word quiz would be given in the next class meeting.

Seventhly, the instructor spent twenty minutes in reviewing all the words in both groups before she conducted a word quiz. In the experimental group, the instructor asked the subjects whether there were words that they didn't know how to express through drawing. Some of the subjects pointed out the words such as *ordinary*, *actually*, and *therefore*, etc. Then, the instructor walked around and took a look at the subjects' pictures, finding out some interesting pictures and inviting those subjects to draw their pictures on the blackboard. For example, one girl drew out the meaning of *actually* by using comparison. She drew a girl in two different conditions. One was with a fine figure and long hair, but the audience couldn't see her face. The other one faced the audience and was *actually* not a beautiful girl in the subjects' eye (See Appendix B). Most of the subjects were very interested in this review activity. They changed their different point of views on communicating the meaning of words through drawing. Even some low-achievement subjects showed their strong interest, too. However, in the control group the review activity was just the same as usual: to repeat each word and the sentences.

Eighthly, after the review section, the instructor conducted a word quiz—Part A (recognition) and Part B (production). Part A was held about five minutes and when time was up, the instructor collected the papers of Part A first and distributed the papers of Part B. The time given to Part B was about ten minutes and then the instructor would collect the test papers and score them. Three days later, the same word quizzes with different ordering from the previous ones were given in both groups, too. Besides, the instructor also scored the delayed- word- quiz papers

Finally, when the instructor finished teaching and testing the vocabulary in the four

lessons, according to the results of the pre-test, she invited nine participants in the experimental group (three from high achievement level, three from middle achievement level, and three from low achievement level) to give their responses to the experimental treatment through interview.

The exact time table of the whole teaching procedure would be listed in Table 3.2.

Table 3.2 : The Time Table of Teaching Procedure

Class meeting	Teaching Activities
1	To conduct the pre-test-the English Proficiency Test-The elementary level of GEPT in both groups
2	To show slides first, explain how to draw according to the meaning of the word and teach the vocabulary of L1(1-8) in the experimental group (EG) To teach the vocabulary of L1 (1-8) in the control group (CG)
3	To teach the vocabulary of L1 (9-15) and have the students draw in the EG To teach the vocabulary of L1 (9-15). and have them review the target words by repeating in the CG
4	To review the vocabulary of L1 by having some students draw on the blackboard in the EG To review the vocabulary of L1 by repeating the words in the CG. To conduct word quiz 1 in both groups
5	To conduct delayed word quiz 1 in both groups
6	To teach the vocabulary of L2 in both groups (1-9)
7	To teach the vocabulary of L2 (10-17) and have the students draw in the EG To teach the vocabulary of L2 (10-17) and have them review the words by repeating in the CG.
8	To review the vocabulary of L2 by having the students draw on the blackboard in the EG To review the vocabulary of L2 by repeating the words in the CG To conduct word quiz 2 in both groups
9	To conduct delayed word quiz 2 in both groups
10	To have the students learn the vocabulary of L3 (1-15) by themselves and have them draw in the EG To have the students learn the vocabulary of L3 (1-15) by themselves and have them review by repeating in the CG
11	To conduct word quiz 3 in both groups
12	To teach the vocabulary of L4 (1-9) in the EG To teach the vocabulary of L4 (1-9) in the CG
13	To teach the vocabulary of L4 (10-18) and have the students draw in the EG To teach the vocabulary of L4 (10-18) and have them review the words by repeating in the CG..
14	To review the words of L4 in both groups and conduct word quiz 4
15	The First Periodical Exam
16	To conduct delayed word quiz 3 and word quiz 4 in both groups

3.6 Data analysis

Two methods, i.e., the qualitative and quantitative ones, were used to analyze the data collected. First, the English proficiency test was scored first to see if there was any significant difference between the two groups. Second, four IWQ, four DWQ including Part A and Part B and the vocabulary section in the periodical exam in both groups were collected, scored and analyzed to see if the average scores in all the tests of the students in the experimental group were better than those of the students in the control group and if there were any significant differences in all the tests between the two groups. Thirdly, the spelling mistakes in the productive part of the word quizzes would be also analyzed. At last, the subjects' response to the study from the interview would be analyzed, too.