

## Chapter Three Method

This chapter introduces the research method of the present study: the participants are discussed in section 3.1; the instruments are addressed in section 3.2; and the procedures are presented in section 3.3.

### 3.1 Participants

The participants were two classes of first-year high school female students (N = 64) from a public senior high school in Taipei, randomly assigned to be the reading group (Group R) (N = 30) and the listening group (Group L) (N = 34). The two groups did not differ in their performance on the GEPT intermediate reading and listening sections ( $t = -1.48, p = .145$ ): Group R,  $M = 62.57, SD = 12.47$ , Group L,  $M = 66.978, SD = 11.23$ . According to the sum of the GEPT scores, the top 30% of the students of each group were labeled as higher achievers in the present study, and the last 30% of the participants were described as lower achievers.

### 3.2 Instruments

#### 3.2.1 Reading and Listening Texts

The texts chosen were 6 narrative<sup>1</sup> texts (see Appendix A~F) from *Reading Success*, a series of readers targeted at ESL or EFL young learners, featuring interesting short stories written in natural English and with controlled vocabulary and grammar to allow students to practice reading texts at a comfortable level. The six

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<sup>1</sup> Of all the text genres, narrative discourse was chosen because narratives follow a time, event change sequence that is understood and enjoyed by people in every culture and people of all aged groups (Koda, 2005; Rott, 1999), and also because narratives stand in the middle ground on the spoken-written continuum, sharing many characteristics with face-to-face communication (Koda, 2005).

articles were rated in Flesh-Kincaid Grade Level<sup>2</sup> (see Table 3-1), with readability indexes ranging from 4.0-5.6. It is suggested (Nation, 2001) that learners need at least 95% coverage of known words in the input to gain reasonable comprehension and to have reasonable success at inferring word meaning from context and a ratio of 98% is even better. The known word ratio in the chosen texts was higher than 99%, giving the participants a good chance of comprehending the texts and picking up new words from reading and listening texts.

The audio versions of the selected texts were in the accompanying CDs to the book, recorded by a male native English speaker with a standard North American accent, and with speech rates averaging 140 words per minute, a rate that is close to that of the test items in GEPT intermediate listening section.

Table 3-1. Readability Calculation of the 6 Texts

Title	New Hearing Aides (text1)	Nails in the Door (text2)	How Far Can You See (text3)	A Bad Driver (text4)	Twenty-Five Cent Coins (text5)	A Grumpy Customer (text6)	Mean
Words of the text	348	354	357	367	370	375	361.83
Syllables	1497	1527	1504	1512	1501	1506	1507.83
Paragraphs	12	10	17	13	14	16	13.67
Sentences	38	29	33	32	34	35	33.5
Passive Sentences	0%	0%	0%	0%	0%	0%	0%
Difficulty Index	4.3	5.6	4.0	4.0	4.1	4.5	4.47

<sup>2</sup> The Flesch/Flesch–Kincaid Readability Tests are readability tests designed to indicate how difficult a reading passage is to understand (Kincaid et al., 1975).

### **3.2.2 Comprehension Test**

An immediate test of comprehension (see Appendix G and H) was administered right after each reading or listening, involving three multiple-choice questions, one being global and the other two local. Use of the target vocabulary items was avoided in the comprehension question construction to prevent the test items from adding saliency or any kind of knowledge to the target words, and also to ensure that the written or spoken texts were the only sources for the subjects to increase their knowledge of the target vocabulary words.

### **3.2.3 Pretest and Posttest of the Target Words**

From the 6 texts, 10 lexical items (see Table3-2) were chosen, by the researcher and the two English teachers of the two groups, as the target words in the present study. They were selected with reference to frequency of occurrences in the texts, and contextual clues available for making meaning inferencing. Each word was then analyzed by the researcher, the English teachers from Group L, and two TESOL graduate students to ensure that they contain sufficient either global or local contextual clues for inferring word meaning.

The 10 target lexical items were presented visually to Group R, and aurally to Group L. More specifically, when being tested on word knowledge of the target words, Group R read the written forms, while Group L listened to the spoken forms, which were presented orally to the subjects by the researcher, with each repeated for three times at two second-intervals. The researcher consulted the English teacher from Group L and two TESOL graduate students to ensure that every target word was well-articulated before presenting it. Either in Group R or Group L, each vocabulary test item was allotted around 90 seconds to completion.

Table3-2. The Target Words of the Six Texts

<b>Title</b>	<b>Target Words</b>	<b>Occurrences</b>	<b>Parts of Speech</b>
New Hearing Aides (text1)	deteriorate	2	v.
	noticeable	2	adj.
	aid	6	n.
Nails in the Door (text2)	disobedient	4	adj.
	behave	2	v.
How Far Can You See (text3)	assistance	1	n.
	witness	1	n.
A Bad Driver (text4)	reckless	2	adj.
Twenty-Five Cent Coins (text5)	bully	2	n.
A Grumpy Customer (text6)	grumpy	6	adj.

### 3.2.4 Vocabulary Knowledge Scale

Vocabulary Knowledge Scale (VKS) (See Appendix I and J), designed by Paribakht and Wesche (1996a), was used for assessing the participants' vocabulary knowledge and growth in the present study. This instrument uses a 5-point scale (See Figure 3-1) combining self-report and performance items to elicit self-rated and demonstrated knowledge of specific words in written form. Responses can range from total unfamiliarity, through recognition of the word and some ideas of its meaning, to the ability to use the word semantically and grammatically accurately in a sentence. The VKS has proved to be successful in indicating where along the acquisition continuum a word exists in a test-taker's lexicon. The differences between the five scale are large enough to be self-perceived, and yet small enough to detect subtle word knowledge gains during the relatively brief experiment period of the present study. The VKS was originally constructed to specifically identify lexical knowledge increase resulting from reading activities. However, in this study both the written and

spoken forms of the 10 target words were measured. As a result, some slight adjustments were made to make it applicable to the spoken forms: first, the descriptions in the five categories were changed. The verb “see” was changed to “hear.”; second, the vocabulary items were presented to Group L in the form of aural input (see Figure 3-3).

The VKS scoring scale (see Figure 3-2) renders responses in each of the five categories into scores. Test-takers who self-report word knowledge of categories I and II are credited with 1 point and 2 points respectively. A score of 2 is given if incorrect responses in the categories III, IV, and V are made. A score of 3 indicates that an appropriate synonym or L1 translation has been provided in the categories III and IV. A score of 4 is rewarded when a word is used in a sentence where its meaning is contextually appropriate but its grammar is inaccurate. A score of 5 (the highest score) reflects both semantic and grammatical appropriateness of a word, even if errors occur in other parts of the sentence.

Self-report categories	
I.	I don't remember having seen this word before.
II.	I have seen this word before, and I don't know what it means.
III.	I have seen this word before, and I <u>think</u> it means _____ (synonym or translation).
IV.	I <u>know</u> this word. It means _____ (synonym or translation).
V.	I can use this word in a sentence: _____ (Write a sentence) (If you do this section, please also do Section IV.)

Figure 3-1 VKS Elicitation Scale — Self-Report Categories

(Designed by Paribakht & Wesche, 1996a)

Self-report categories	Possible scores	Meaning of Scores
I	1	The word is not familiar at all.
II	2	The word is familiar but its meaning is not known.
III	3	A correct synonym or translation is given.
IV	4	The word is used with semantic appropriateness in a sentence.
V	5	The word is used with semantic appropriateness and grammatical accuracy in a sentence.

Figure 3-2. VKS Scoring Categories — Meaning of Scores  
(Designed by Paribakht & Wesche, 1996a)

Self-report categories
I. I don't remember having heard this word before.
II. I have heard this word before, and I don't know what it means.
III. I have heard this word before, and I <u>think</u> it means _____ (synonym or translation).
IV. I <u>know</u> this word. It means _____ (synonym or translation).
V. I can use this word in a sentence: _____ (Write a sentence)
(If you do this section, please also do Section IV.)

Figure 3-3. VKS Elicitation Scale — Self-Report Categories  
(Designed by Paribakht & Wesche, 1996a)

### 3.2.5 Questionnaire

The two questionnaires, one for Group R and the other for Group L (See Appendix K and L), adapted from Hong (2005), were designed to obtain the participants' attitudes and suggestions on the two vocabulary learning methods. The

students were asked to respond to each statement on a 5-point scale: strongly agree (1), agree (2), neither agree or disagree (3), disagree (4), strongly disagree (5).

### **3.3 Procedures**

#### **3.3.1 Reading and Listening Proficiency Tests**

Before the treatment began, an intermediate GEPT test which included reading and listening sections was administered to identify the participants' proficiency levels.

#### **3.3.2 Pre-test**

The pre-test was intended for assessing the participants' prior knowledge of the target words so as to provide a baseline against which the posttests were evaluated. During the experiment period, none of the 10 target words were taught through formal instruction or covered in the textbooks for the subjects.

#### **3.3.3 Treatment: Experimental Reading and Listening**

Group R and Group L were asked to read or listened to a narrative passage once a week for 6 weeks in a row. The two groups processed each text twice, and spent approximately the same amount of time on each text. They were instructed to read or listen for comprehending overall text meaning, and were not informed beforehand about the immediate VKS tests on the target words. Group L were told not to take notes of the spoken texts while listening so that they could all process the texts at a similar cognitive level. The written texts for Group R were collected immediately after the reading sessions so that Group R had no written texts to refer back to when answering the comprehension questions. Then, both groups had to answer 3 comprehension questions for each text, followed by an immediate test on vocabulary gain.

#### **3.3.4 Immediate Tests on Comprehension and Vocabulary Gain**

*Comprehension test.* Right after the reading or listening, an immediate test of

comprehension was administered, involving three questions, with one being global and the other two local. Next, an immediate VKS test on the target words was given to all the participants to examine the vocabulary gain.

*Vocabulary gain.* VKS tests were administered to assess participants' newly gained vocabulary knowledge, presented visually for the group R and aurally for the Group L.

### **3.3.5 Retention Test**

The retention posttest test, identical to the pretreatment vocabulary test, was administered two weeks after the last reading and listening sessions to assess the retention of the target lexical items. To diminish the effects of episodic memory from the pretest on the retention test, the 10 words in the retention test were sequenced randomly, in a different order from which the pretest vocabulary items had been presented.

### **3.3.6 Time Span**

The entire experimentation period lasted for 8 weeks (See Table3-3). In the first week, the participants took take a GEPT proficiency test, (including only the listening and reading sections), and a pretest of the 10 target words. In the following 6 weeks, the participants read or listened to reading or listening passages, followed by a comprehension test and an immediate vocabulary gain test. Then, two weeks later, a posttest on the retention of the 10 target words and a questionnaire were given to the subjects.

Table 3-3. The Five Stages of the Present Study

<b>Experimentation Phase</b>	<b>Task</b>	<b>Date</b>
1 GEPT Intermediate tests	GEPT listening and reading sections for locating the subjects' proficiency levels	2/26,27/2007
2 pretest	pretest of ten target words	2/26,27/2007
3 treatment and immediate vocabulary gain test	experimental reading and listening, immediate test on comprehension and vocabulary gain	3/3/2007
		3/6,7/2007
		3/13,14/2007
		3/20,21/2007
		3/29,30/2007
		4/3,4/2007
4 posttest	delayed test of ten target words	4/17,18
5 questionnaire	questionnaire	4/17,18