

CHAPTER 2

LITERATURE REVIEW

Chapter 2 is primarily concerned with some closely related research and theoretical background: passive (receptive) and active (productive) vocabulary knowledge on a continuum, breadth (size), depth and strength, breadth (size) tests and depth tests, previous studies, several explanations as to why receptive learning and use are easier than productive learning and use. The scope of the present study is discussed at the end of the chapter.

2.1 Passive (receptive) and active (productive) vocabulary knowledge on a continuum

Most researchers nowadays agree that investigators should construe lexical knowledge as a continuum consisting of several levels and dimensions of knowledge, starting with superficial familiarity with a word and ending with the ability to use the word correctly in free production (Nation 2001; Laufer & Goldstein, 2004). Vocabulary on the continuum may shift from passive to active vocabulary when being properly activated. Therefore, the view of a continuum appropriately expresses the dynamic complexity of vocabulary knowledge.

In order to distinguish different types of knowledge, some linguists such as Palmer (1921), West (1938), and Crow (1986) used the term “receptive skills” to refer to skills in listening and reading and the term “productive skills” to refer to skills in speaking and writing. The terms “passive” or “receptive” (for listening and reading) and “active” or “productive” (for speaking and writing) have been used interchangeably in research by Meara (1990), Carson (1995) and Laufer (1998) (Nation, 2001). In the present study, the terms are also used interchangeably.

Passive vocabulary knowledge involves perceiving the form of a word while listening or reading and retrieving its meaning. Productive vocabulary knowledge, on the other hand, means to express a meaning through speaking or writing and retrieve

and produce the appropriate spoken or written word form (Nation, 2001). Thus, passive vocabulary knowledge involves a process from form to meaning and productive vocabulary knowledge involves a process from meaning to form.

Stoddard (1929), Waring (1997), Laufer (1998), Laufer and Paribakht (1998), Laufer, et al. (2004) and Laufer and Goldstein (2004) have proved that passive vocabulary knowledge is more easily attained. Between passive recognition (e.g. understanding the most frequent meaning of a word when a learner sees an L2 word form) and free productive vocabulary knowledge (e.g. using a word freely in speaking and writing), there are other dimensions or modalities such as active recognition (e.g. choosing a correct L2 translation for an L1 word from L2 options), passive recall (e.g. translating an L2 word into an L1 word), active recall (e.g. translating an L1 word into an L2 word), and controlled productive vocabulary knowledge (e.g. writing a target word according to a given minimal context such as a sentence).

2.2 Breadth (size), depth and strength

In the present study, the breadth of vocabulary knowledge is defined as vocabulary size, or the number of words for which a learner has at least the minimum knowledge of meaning (Qian, 1999). Minimum knowledge of a word's meaning is defined as the ability to recognize its most frequent meaning. The total number of words a student knows in this way is the learner's breadth of vocabulary knowledge or their vocabulary size.

How well a particular word is known is considered the depth of vocabulary knowledge (Nation, 2001). In other words, the depth of a learner's vocabulary knowledge refers to their knowledge of various aspects of a given word, such as its meaning, especially polysemy and synonyms, and its sensitivity to collocations and associations (Qian, 2004).

While vocabulary knowledge is said to constitute a continuum with difficulty hierarchies from passive to active vocabulary knowledge, the degree of vocabulary knowledge is referred to as "strength". Though two people may "know" the meaning of a particular lexical item, the strengths of their knowledge may not be identical. For example, when Learner A sees the word "melt", he can at least retrieve the meaning

“turn into water”. However, when he is asked to write an English word which means “turn into water”, he fails. Learner B, on the other hand, is able to correctly retrieve and write an English word “melt” which means “turn into water”. In this example, it could be said that the strength of the word “melt” in the vocabulary knowledge of Learner A is different from that of Learner B. In other words, Learner B’s knowledge of the word “melt” is stronger than that of Learner A.

2.3 Breadth (size), depth and strength tests

Different researchers recommend different vocabulary tests depending on their view of vocabulary knowledge, their preference for a particular dimension or modality of vocabulary knowledge, and their interest in either size, depth or strength (Laufer & Goldstein, 2004). In this section, the researcher will first discuss tests which focus on size at length, and will briefly discuss depth and strength tests.

Read (2004) points out that Nation’s Vocabulary Levels Test (VLT) is still the most famous vocabulary breadth measurement. The VLT was first designed by Nation (1983) as a diagnostic vocabulary test. It has been revised several times. Table 2.1 gives a brief overview of the development of the entire English version VLTs.

Table 2.1 The development of the English Version VLTs

| <i>Published time / designers</i> | <i>Sampling method</i> | <i>Items in per thousand word level/ parallel versions</i> | <i>Modalities being tested</i> | <i>Main advantages</i> |
|--|---|--|--|---|
| 1. 1983 version/ Nation | Corpus-based/ Target words were sampled from frequency levels: 2,000, 3,000, 5,000, and 10,000 frequency levels and target words in the academic section were sampled from the University Word List (UWL) (Xue & Nation, 1984). The academic section cuts in the 4,000 word level. | In each level, there are 18 items/No parallel versions. | Passive vocabulary size. | |
| 2. 1990 version (the same as the 1983 version & published in Nation's book (1990)) | Same as the 1983 version. | Same as the 1983 version. | Same as the 1983 version. | |
| 3. 1993 version/ Schmitt | Same as the 1983 version. | In each level, there are 18 items/4 parallel versions. | Passive vocabulary size. | Very flexible with 4 parallel versions which can be used as pre-test, post-test and tests for different stages in a longitudinal study. |
| 4. 1999 version/ Laufer & Nation | Based on the target words of 1993 version. | In each level, there are 18 items/4 parallel versions. | Controlled productive vocabulary size. | Testing vocabulary size in minimal context/Very flexible with 4 parallel versions. |

Table 2.1 (Continued)

| <i>Published time / designers</i> | <i>Sampling method</i> | <i>Items in per thousand word level/ parallel versions</i> | <i>Modalities being tested</i> | <i>Main advantages</i> |
|-------------------------------------|--|---|--------------------------------|---|
| 5. 2001 version/ Schmitt et. al. | Based on the target words of 1993 version except the Academic Vocabulary level in which the target words were sampled from Coxhead's Academic Word List (AWL) (Coxhead, 2000). | 30 items in each level to increase the reliability (Schmitt et al., 2001)/ 2 parallel versions. | Passive vocabulary size | Have been properly validated quantitatively and qualitatively/ with New AWL/The reliability has increased (Schmitt et al., 2001). |

Based on the English version VLTs, many studies have been conducted and the following examples are some early and recent studies. In 1988, Read did some initial validation work on the test in the study of the relationship between vocabulary size and reading comprehension, finding the VLT (Nation, 1983) to be reliable (Schmitt, et al., 2001). Laufer et al. (2004) researched the monolingual Computer Adaptive Test of Size and Strength (CATSS). The target word list was based on the Schmitt et al. (2001) version 2. Laufer and Goldstein (2004) researched the bilingual CATSS and the target word list was based on the word list of Schmitt et al. (2001) version 2.

Some other types of size tests such as the yes/no test as vocabulary size test developed by Meara (1992) was found to produce unreliable results by Cameron (2002). This was largely because of inclusion of nonsense words in the options to judge whether the testees “know” the word or not. Problems have been noted with reactions to the nonsense words, particularly with low-level learners and with native speakers of certain languages including Arabic. The other types of vocabulary size tests include the self-made ones. For example, in Fan's (2003) study, the size test was similar to VLT but included 360 test items¹ making it four times as long as Nation's VLT (1990). Increasing the length of the test was indeed an effective way to increase the reliability of the test. However, practicality still needed to be taken into consideration. It (only this

¹ In Nation's VLT (1990), there are 18 items at 2,000, 3,000, 5,000, 10,000 levels and Academic word level respectively. So, the sum is 90 items. 360 items divided by 90 items is four times.

passive recognition test) might take about 1.5 to 2 hours for an adult EFL learner (with similar English proficiency as the Thai subjects in the present study) to finish it, which is probably too long.

Besides vocabulary size test, the other category of vocabulary test is depth test, which tends to focus on only a small number of items for practicality reasons. Their value lies mainly in researching specific items targeted for investigation amongst specific research participants. Read (1993, 1995, 1998), Bogaards (2000), Greidanus and Nienhuis (2001), Qian (1999, 2002), and Qian and Schedle (2004) researched the depth tests. The newest measure of in-depth vocabulary knowledge for assessing reading performance was designed by Qian and Schedle (2004). They also found in their study that the depth test could predict a learner's reading ability. However, no matter what skill the depth test is used to measure, they can still only measure learners' partial vocabulary knowledge.

While depth tests look at a small number of target words, breadth (size) tests include larger samples of words chosen randomly from different word frequency levels and the sample words represent the entire vocabulary at these levels. Read (2000, cited in Laufer et al., 2004) acknowledged that size tests give a more representative picture of the overall state of the learners' vocabulary than an in-depth probe of a limited number of words. For these reasons, the present study focuses on only size and strength of vocabulary knowledge.

One vocabulary size test can offer related information about both learners' vocabulary size and vocabulary strength. For example, a passive vocabulary size test can test the vocabulary size the learner has and can test one of the dimensions or one of the strengths of the vocabulary knowledge which is the passive vocabulary strength in the example. Similarly, an active vocabulary size test can test the vocabulary size the learner has and can test learners' active vocabulary strength. Therefore, the researcher in the present study used the multiple tests approach to study learners' vocabulary sizes and strengths.

2.4 Previous studies

2.4.1 Size

Investigating learners' vocabulary size can be of substantial value to language research and pedagogy. The information indicates the realistic situation of a given lexical syllabus and what would constitute an optimal syllabus (Laufer, 1998) which will, in turn, guide the material design, the testing, the teaching and the learning.

Many studies have been carried out to investigate vocabulary size, the relationships between vocabulary sizes and other language skills or overall language proficiency.

In Thailand, for instance, some studies showed vocabulary size could influence learners' vocabulary learning strategies. Sripetpun (2000) conducted a study on learners at **PSU** exploring the influence of vocabulary size on vocabulary learning and vocabulary learning strategies. The findings established a Threshold Level List of 2,239 English headwords. (A word family consists of a headword, its inflected forms, and its closely related derived forms (Nation, 2001)). The study proved the word list reliable for providing a baseline of vocabulary knowledge for Thai EFL university students to develop their independent vocabulary learning and word guessing strategies from reading contexts.

In China, vocabulary size studies have been conducted since the early 1980s and most of them concerned passive vocabulary size such as those by Gui (1983, 1985), Yu (1991), Zhou et. al. (1999), Deng and Zeng (1998, 2001), Shao (2002), and Huang et al. (2004). They used corpus-based methods (both foreign corpuses and the Chinese Word List of the National College Curriculum) and dictionary-based method to sample the target words. Due to the different definitions of vocabulary knowledge, the different instruments and the vocabulary size calculation formulas the researchers used (in some studies, the instruments and the calculation formulas were not even stated clearly), it was not easy to compare the results, but the studies offered complementary information for research in this area.

For example, Gui (1983) sampled target words from the Thorndike and Lorge word list and found that the passive recognition vocabulary size of the freshmen in **SCAU** was only 1,100 words. In the study, passive recognition of a word was defined

as understanding its most frequent meaning, demonstrated by selecting a correct match for the L2 target word from four L1 (Chinese) options. This study could be said to have started the history of vocabulary size study in China.

Deng and Zeng (1998) used a stratified sampling technique and sampled 200 target words from 10,000 most frequent words and found the passive vocabulary size of EFL freshmen in Nanjing Agricultural University to be 3,500 words. In the study, passive recognition of a word was also defined as understanding its most frequent meaning, demonstrated by selecting a correct match for the L2 target word from four L1 (Chinese) options.

Ma (2001) sampled the target words of the instruments from the Word List of the National College Curriculum and the study revealed the passive vocabulary size of the second year Science university students was about 3,000 words. It was also found that students' passive vocabulary size correlated highly with their overall proficiency especially with reading comprehension.

Huang et al. (2004) sampled 100 target words from 14,585 high-frequency words in the Collins Cobuild English Dictionary. The test format was the same as the multiple choice items in Gui (1983) and Deng and Zeng (1998). The subjects were freshmen in three universities in Hangzhou, Zhejiang Province. The average passive vocabulary size was 5,617 words, which included many derivations or inflections. The researchers considered 3,500 words had been learned mainly through high school instruction. With some strategies to guess derivations and some compound words, it was very possible for the students to have such a vocabulary size.

To the researcher's knowledge, no one has yet adopted or adapted the 2001 version VLT revised by Schmitt et al. to investigate Thai and Chinese university EFL learners' vocabulary knowledge.

2.4.2 Size and strength

Though there are some studies about receptive and productive vocabulary knowledge which date back to 1929 by Stoddard, there are only a small number of studies concerning size and strength. The paucity of studies in this area could be due to the difficulty for researchers in defining the nature of vocabulary knowledge and

designing valid and reliable tests which can measure vocabulary knowledge (Laufer, 1998).

Previous studies concerning the size and strength of vocabulary are reviewed in the present study in terms of the modalities they focused on.

2.4.2.1 Two-modality studies

Waring (1997 cited in Nation, 2001) compared the passive and active vocabulary knowledge of Japanese subjects using two VLTs. One was the passive VLT by Nation (1983,1990), and the other was the controlled productive VLT by Laufer and Nation (1999). Waring added a 1,000 word level section below the 2,000 word starting level. The results showed that learners always scored higher in the receptive test than in the controlled productive test. As learners' vocabulary increased, their receptive vocabulary grew progressively larger than their productive vocabulary. However, learners with larger vocabulary sizes and learners with smaller vocabulary sizes did not differ greatly in the relative proportion of receptive to productive vocabulary.

In China, there have been very few studies concerning size and strength. Ma (2001) investigated passive and active vocabulary sizes of second year Science university students. Target words in the instruments were sampled from the Word List of the National College Curriculum. Translating a word from L2 to L1 was considered a test of passive vocabulary and translating a word from L1 to L2 was considered an active vocabulary test. The study revealed that students' passive vocabulary size was larger than their active vocabulary size and there was still a big gap between reality and the requirements of the National College Curriculum. In Ma's (2001) study, passive vocabulary size was 3,000 words and active vocabulary size was 2,000 words, whereas the requirements of the National College Curriculum are 4,200 words for passive use and 2,500 words for active use.

2.4.2.2 Three-modality studies

Laufer (1998) compared the development of passive and active vocabulary knowledge in 16-year-old and 17-year-old Israeli EFL learners (grade 10 and grade 11, with 6 and 7 years of English instruction respectively) using three

different types of tests. Passive vocabulary knowledge was defined as understanding the most frequent meaning of a target word; controlled active vocabulary knowledge was defined as being able to write a target word in a minimal context which was a sentence; and free active written vocabulary knowledge was defined as spontaneous use of a word in a writing assignment. Passive vocabulary knowledge was measured by the VLT (Nation, 1983, 1990). Controlled active vocabulary was measured by the controlled productive VLT by Laufer and Nation (1999) and the free active vocabulary which was a classroom composition was analyzed by using the Lexical Frequency Profile (Laufer & Nation 1995) which is also called VocabProfile. The results showed that passive vocabulary size progressed very well. The learners with an additional year of instruction had a much larger passive vocabulary size. Grade 11 learners had about 3,500 word families, but Grade 10 learners had about 1,900. Controlled active vocabulary progressed too but more slowly than passive vocabulary. Free active vocabulary did not progress at all. Passive vocabulary size was larger than controlled active vocabulary in both groups of subjects, but the gap between the two types of vocabulary knowledge increased in the more advanced group. Passive and controlled active vocabulary size scores correlated with each other well. There were significant correlations between passive and controlled active vocabulary size: .67 for the 16-year-olds and .78 for the 17-year-olds. Free active vocabulary, on the other hand, did not correlate with the other two types of vocabulary. Since the two groups of learners were similar in all variables except the amount of instruction, Laufer (1998) attributed their differences to the additional year at school. Therefore, Laufer (1998) suggested that these three dimensions of lexical knowledge develop at different rates as learners progress in their L2 learning.

Laufer and Paribakht (1998) used the same three measures to look at 79 EFL learners in the University of Haifa, Israel and 103 Canadian ESL university students at different proficiency levels. They again found significant correlations between receptive and productive vocabulary size with .72 for ESL and .89 for the EFL learners. The results showed that the three dimensions of vocabulary knowledge developed at different rates. Active, particularly free active vocabulary, developed more slowly and less predictably than did passive vocabulary. Furthermore, the relationships between the three dimensions of vocabulary knowledge revealed a difference between

the two learning contexts. Although passive vocabulary was always significantly larger than controlled active and free active vocabularies, the passive-active vocabulary gap was smaller in the EFL than in the ESL context. This appeared to be a paradox because ESL learners had more exposure of L2. In contrast, EFL learners likely exerted more effort to acquire a similar amount of passive vocabulary mainly through form-focused instruction rather than through exposure. Laufer and Paribakht (1998) argued that the larger passive and active vocabulary gap in ESL learners did not make their lexical knowledge superior or inferior to that of EFL learners because the passive and active vocabulary gap was influenced by many factors such as vocabulary size. It only provided evidence for different developmental patterns of vocabulary knowledge in different language learning contexts.

2.4.2.3 Four-modality studies

Laufer et al. (2004) researched four modalities of vocabulary knowledge to explore a model for the monolingual CATSS using ESL learners as subjects. The four modalities were passive recognition, active recognition, passive recall and active recall which reflected the vocabulary strength elements. Their results showed that active recall was the most difficult mode followed by passive recall and with active and passive recognition being equally the easiest modes. The active recall test which involved a process of retrieving the word form from the word meaning was the most demanding task for the ESL learners. The passive recognition test which was assumed to be easier than the active recognition test turned out to have the same difficulty level.

Laufer and Goldstein (2004) conducted a follow-up study to Laufer et al.'s (2004). This time they used the bilingual test instead of the monolingual test with 435 ESL learners. In the study, the 4 modalities, namely passive recognition, active recognition, passive recall, and active recall constituted a hierarchy of difficulty. Passive recognition was found to be the easiest modality because it only involved the process of retrieving the meaning from the word form. In this study, the active recall was again found to be the most difficult modality. The results showed that the hypothesized hierarchy was present at all word frequency levels and that passive recall was the best predictor of overall classroom language grades. Moreover, they found that vocabulary knowledge may increase differently at different strength modalities.

2.5 Several explanations why receptive learning and use are easier than productive learning and use

In general, it seems that receptive learning and use are easier than productive learning and use. There are possible explanations which are probably complementary rather than competing.

- (1) The “amount of knowledge” explanation (Crow, 1986; cited in Nation, 2001) argues that productive learning is more difficult because it requires extra learning of new spoken or written output patterns.
- (2) The “practice” explanation by DeKerser and Sokalski (1996; cited in Nation 2001) argues that in normal language learning conditions, receptive use generally gets more practice than productive use. This may be an important factor in accounting for differences in receptive and productive vocabulary size.
- (3) The “access” explanation by Ellis and Beaton (1993, cited in Nation 2001) suggests that a new foreign language word in the early stages of learning has only one simple link to its L1 translation (the receptive direction). For example, the foreign word “kaki” means “leg” in L1 translation. The L1 word, however, has many competing associations (the productive direction). For example, when using the L1 word “leg”, a learner may face many choices: collocates of “leg”; synonyms of “leg”; opposites of “leg” etc.
- (4) Henriksen (1996, cited in Laufer & Paribakht, 1998) considers a receptive productive continuum of vocabulary knowledge as a “control continuum”. According to Henriksen, the fact that learners cannot use a word correctly nor access it freely for production does not mean they do not “know” the word; it only means that they have not yet achieved adequate control over word access.

2.6 The scope of the present study

The present study focuses on three-modality vocabulary knowledge: **passive recognition (PR)**, **active recall (AR)** and **free active written (FAW)** vocabulary

knowledge. These three dimensions well represent passive and active vocabulary knowledge in terms of their relative levels of difficulty. The information from the three dimensions is very helpful for teachers and as well as learners. The reasons are as follows: **Passive recognition** vocabulary provides the weakest point in the form-meaning link of a word when vocabulary knowledge is considered as a continuum of form-meaning relationships (Laufer & Goldstein, 2004). The present study adopts this view. Therefore, the weakest point is the starting point or the easiest point in the vocabulary continuum. As for what is the starting point of the vocabulary continuum, there are various opinions. According to one view, the vocabulary continuum starts with a vague familiarity with the word form, i.e. a learner knows that the item is a word in the target language (Faerch, Haastrup & Phillipson, 1984, cited in Laufer & Paribakht, 1998). Another suggestion by Palmberg (1987, cited in Laufer & Paribakht, 1998) views the beginning of the continuum as potential vocabulary which means even words the learner has never encountered may be “known” because, once having encountered them, the learner will recognize them on the basis of already existing knowledge of the L1 or of other languages. Most researchers agree that **free active** vocabulary knowledge is the ending point on the continuum of learners’ vocabulary knowledge (Faerch, Haastrup & Phillipson, 1984, cited in Laufer & Paribakht, 1998). **Active recall** vocabulary is the productive vocabulary knowledge which indicates the vocabulary size a learner can potentially produce. With **passive recognition** vocabulary as a point of reference, teachers and learners are able to locate the gaps between passive and active vocabulary knowledge. In addition, the present study includes the following new elements which have not been investigated in previous studies:

- (1) The present study is a comparative study of tertiary level EFL learners in different countries under different curricula.
- (2) To my knowledge, no researcher has previously constructed bilingual VLTs for both PSU students and SCAU students.
- (3) In order to collect data in free active written vocabulary knowledge, a guided e-mail writing form for getting to know new pen-pals in different countries was introduced. It was hoped students would be highly motivated and this method would activate more words from the learners’ word repertoire.