Chapter One

Introduction

1.1 Background and Motivation

Learning vocabulary is an unending task in EFL learning. According to Nation (1990), EFL learners need to acquire about 5,000 frequently used words in order to use the language with ease. If they are unable to reach the vocabulary threshold, they will have difficulties in reading authentic materials, or in communicating with native speakers successfully. To put it another way, insufficient vocabulary and lexical errors may cause great obstacles to communication and comprehension, thus becoming a hindrance in mastering the language (Segler, Pain, & Sorace, 2002).

During the period of 1940-1970, when structuralism and contrastive analysis along with behavioral psychology laid stress on the audiolingual method, vocabulary teaching was largely neglected in language classrooms. Proponents of the audiolingual approach emphasized the practice of language structures and neglected the necessity of teaching vocabulary. Fries (1945) believed that only through mastering phonology and syntactic patterning could learners master a new language. Language learners should first master function words, substitute words, words of negative/affirmative distribution thoroughly in order to move on to learn vocabulary for recognition and production.

Furthermore, linguists in the 1960s focused on teaching grammar and regarded teaching vocabulary as peripheral. Even though vocabulary teaching was not totally neglected, it was concerned mainly with the selection and grading of vocabulary without paying much attention to the needs of learners. Researchers and teachers alike believed that students could learn words without help from the teacher. Teachers were given advice on leading students to learn vocabulary through experience (Allen, 1983).

In other words, learners acquired new words by incidental learning, i.e., acquiring vocabulary through reading incidentally (Nagy, Anderson, & Herman, 1987). Hulstijn (1993) argues that three errors will occur when a teacher encourages his students to do incidental learning. First, students will come to believe that they can infer the meaning of all unfamiliar words based on the contextual cues. Second, the result will be wild guessing by most students. Third, correctness is frequently absent in inferring word meanings from context.

Recently, some researchers have looked on the teaching and learning of vocabulary more seriously. Gairns and Redman (1986) are aware that in many EFL classes, teachers spend a large amount of time explaining vocabulary by definition and bombard their students with masses of new lexical items. They suggest that teachers should plan more insightful classroom activities so that students will have more ways to learn new vocabulary items in class, not just repeating word definition explanations.

The importance of teaching vocabulary has received much attention in Taiwan for some time because important tests such as TOEFL, GEPT, or the College Entrance Exam include a section on vocabulary items. Accordingly, English teachers in senior high school spend lots of time on vocabulary explanation and definition in class and students are required to memorize as much vocabulary as possible in the hope of gaining more scores. However, problems often arise during the teaching and learning process.

The first problem is that senior high students need to increase much more vocabulary than junior high students within a short time. According to the *Curriculum Standards* of both junior high and senior high schools, junior high school students have to acquire 1,000 words or so while senior high school students need to gain roughly 3,000 words within the frequency range of 5,000- 7,000. In other words,

senior high school students need to increase twice as much vocabulary as they have done in junior in order to overcome the difficulties in reading and writing and in the College Entrance Exam. It is a difficult task for intermediate or low level students.

Another problem in learning vocabulary that most senior high school students face is the difference in phonological and orthographic patterns between English and Chinese. English is an alphabetic language; some English words are orthographically regular, following the sound-to-spelling pattern, whereas others don't. For example, the letters *oo* in the word *noon* correspond to the sound [u], but in *blood* the same letters are pronounced [ʌ]. However, through training some sub-skills, learners can roughly pronounce both regular and irregular spelling words according to its orthography or comprehend the meaning of a word by recognizing its sounds or even write an appropriate letter for a given sound (Ryan, 1997; Hsin, 2000). But for intermediate or low level Chinese students, it is still hard to organize and make good use of the skills because English sound-to-spelling pattern is quite different from that of Chinese.

Chinese is an ideographic rather than a phonetic representation language. There are four often-used construction principles to make Chinese characters: (1) the picture character, e.g., 木 (mu) representing a picture of the vertical tree trunk with branches and leaves hanging off it, (2) the symbol character, e.g., 上 (shang), which means "above:" ⌐, (3) the sound-plus-meaning compound character, e.g., 金 (jin), which means "gold" combined with 戔 (jian) which means "thin" to form 錢 (qian), which means "money" (similar to gold) with its pronunciation similar to 戔 (jian), (4) the meaning-plus-meaning compound character, e.g., 木 + 木＝ 林(lin), which means "putting some trees together to form a forest."

As Ellis and Beaten (1993) point out, the more different the phonological and

orthographic patterns between the foreign language and the native language are, the more difficult it will be to learn that foreign language. In other words, if a foreign word contains no familiar sounds or its script is not like the mother-tongue script, the learner will have much learning burden and acquire the target words more difficultly (Nation, 1990).

Besides, different languages take advantage of different ranges of articulatory features. If the features do not exist in the native language, the FL learners will have difficulty learning them. English and Chinese show extremely different articulatory features. For example, Chinese students have difficulty in learning to pronounce such words as *rice, regular, and eighth* because either some of the sounds (e.g., [ɵ]) are not found in Chinese, or some of them do not have an exact correlate (e.g., [r]). On the other hand, the tonal differences of Mandarin cause English speakers to have much difficulty. The syllable *ma* has five distinctive tones and each has a different meaning. For example, 媽(*ma*, the first tone) means "mother," 麻(*ma*, the rising tone) means "hemp," 馬(*ma*, the low tone) means "horse," 罵(*ma*, the falling tone) means "to scold," and 嗎(*ma*, the neutral tone) means "a question mark." The less overlap between the feature set of the native and the foreign word, the harder it will be for EFL learners to learn that word" (Ellis & Beaton, 1993).

Still another problem is that many an English teacher adopts GTM (**G**rammar **T**ranslation **M**ethod) to teach vocabulary. They usually read the word and the sentence that contains the word once and then ask the students to read aloud after them. They will then translate the word and the sentence into Chinese and explain the grammar of the sentence, without using interesting methods or techniques. In order to keep up with the syllabus in school as well as to teach all that is needed in the entrance examination, teachers adopt GTM as an easy way out. Accordingly, learning sometimes becomes de-motivating and painful.

As to the students, they are required to memorize many vocabulary items in a short time, so some students tend to focus on memorizing the spelling of the word without concentrating much on the meaning of the word, hence forgetting the meaning easily. Even if they can memorize new words quickly, the memory of the new words will not last long. Maybe they can do well on word quizzes, but they often fail in a formal exam like the monthly exam. Therefore, they will not have a sense of achievement in learning English and thus give it up quickly. To overcome this knotty task thus becomes a challenge for English teachers.

Some strategies such as analyzing word parts, guessing word meaning from context and mnemonic techniques have proved effective to vocabulary learning. In order to motivate students and help them deal with vocabulary learning, EFL teachers should have a clear picture of what the strategies are and how they can make use of these strategies.

One strategy that learners can utilize is to analyze word parts in terms of morphemes. Morphemes are the smallest meaningful units of language and they are of two types, i.e., roots and affixes. There are three types of roots: (1) free roots, which can stand by themselves as whole words, e.g., *ego,* (2) bound roots, which occur in combination with one or more other affixes, e.g., the *-pel* of *propel* and *expel,* (3) compounds, which are made of free roots: *blackberry, airplane* (Sloat & Taylor,1975). There are two types of affixes: derivational affixes and inflectional affixes. The former have the function of deriving new words and the latter are indicators of very broad semantic categories such as tense (*likes*, *liked*) or number (singular-plural, as in *boy*, *boys*) (Stockwell & Minkova, 2001). Furthermore, derivational affixes can be categorized into three types: (1) prefixes: the morphemes preceding the root, adding information, or modifying the meaning of the root. For example, both *re-* and *en-* are the prefixes of *act,* but they change the meaning of *act. React* means "to act back,"

while *enact* means "put into action." (2) suffixes: those following the root, and formed to change a word from one part of speech to another, e.g., the suffix *-ive* attached to *act* (verb) becomes *active* (adjective) (Sloat & Taylor, 1975).

Roots are different from affixes in some ways. First, roots have simpler and much more concrete meaning than affixes. Second, roots can occur in different places in different words, while affixes have very limited distribution. For example, the morpheme *pter* is a root in a word because it has a very concrete meaning-"wing." Besides, it may occur at the beginning, the middle, or the end of a word such as *pterodactyl*, *apteryx*, or *helicopter*. On the other hand, the morpheme *pro-* is an affix. For one thing, it doesn't have very specific meaning, but has different meanings in different words, e.g., "forward" as in *propel* "push forward" and "substituting for" as in *pronoun* "word substituting for a noun." For another, unless another prefix appears before it, e.g., *deprogram*, it may appear only at the beginning of a word (Sloat & Taylor, 1975). Thirdly, roots can form words by themselves. However, affixes have to be added on to a stem to change the meaning or the word-class of a word. Therefore, *happy* and *unhappy* have different meanings and *change* (a noun) becomes an adjective in *changeable*. Fourthly, the total number of roots is relatively larger than affixes (Stockwell & Minkova, 2001). To identify the different functions of both roots and affixes will help learners to successfully analyze word parts and guess the meaning of the word more easily.

According to Sloat and Taylor (1975), there are six ways to make use of word parts:

1. to memorize as many roots and affixes (e.g., *anti-*"against, opposite," *hypo-*"under, not enough," etc,) and morphological rules (e.g., *pel* always becomes *pul* when a consonant follows) as possible.

2. to identify unfamiliar words as analyzable, and avoid analyzing word parts which

lack the common prefixes and suffixes, or contain letters which are not found in classical words (e.g., *w*, *sh*, and *gh*).

3. to divide the target word into several word parts: The word *portable* would be parsed as *port+able* (root+suffix).

4. to have the ability to restore the base forms of the word when the parsing is processed in case any morphological rule, e.g., vowel deletion, has applied to a word. For example, the base forms of the word *autarchy* has to be restored as *auto-arch-y*, not *aut-arch-y*, because there is a vowel deletion here (the letter *o* is deleted).

5. to assign a meaning to each word part and to the whole word: The word parts of the word *autarchy* are *auto-*, *arch*, and *- y* and the meaning of *auto-* is "self" and that of *arch* is "govern" and that of *-y* is "state of." Therefore, a proper meaning of *autarchy* is "state of self government."

6. to determine their meaning by consulting a dictionary or by looking at the context of the sentence the word appears.

Another vocabulary learning strategy is guessing word meaning from context. Nation (1990) states that learners who know about 2,000-3,000 words can take advantage of guessing word meaning from context when they see unknown words. Learners can make use of different types of clues such as definition, the learner's experience of the word, contrast, inference, and analysis. He proposes the following five guessing steps.

Step 1. Learners have to look at the unknown word within its context and decide what part of speech it is: a noun, a verb, an adjective or an adverb.

Step 2. Learners have to look at the clause or sentence in which the unknown word occurs and try to find out the grammatical or collocation relationship between the target word and the nearest word. For example, if the unknown word is a

verb, then what nouns does it go with?

Step 3. Learners have to look at the unknown word within the larger context and try to find the relationship between the clauses or sentences containing the unknown word. Some signals such as a conjunction, or adverb, punctuation, semicolons, are useful information while doing the guessing.

Step 4. Learners have to guess the meaning of the word according to the knowledge they have gained from step 1-3.

Step 5. Learners have to check whether the guessing is correct.

Guessing word meaning from the context is quite commonly used in EFL classrooms. However, to make use of the strategy effectively, EFL learners need to be equipped with around two or three thousand words and enough grammatical knowledge first. Most importantly, learners should read as many articles as possible in order to have more access to meeting unknown words and training their ability to guess word meaning. For most intermediate and low level students, this is not an easy strategy to make good use of, due to their insufficient vocabulary and limited reading material provided in school.

Besides analyzing word parts and guessing word meaning from the context, some mnemonic techniques have been found helpful in vocabulary learning. As mnemonics are a manifestation of our memory, we have to discuss the memory system first.

The human memory system has three components: the sensory register, short-term storage, and long-term storage. Information has to enter the sensory register first through one of the five senses. Incoming information will disappear rapidly from sensory register if it is not rehearsed or passed down to short-term storage. According to Stevick (1982), in STM (Short Term Memory), images we hear or see can only last about 20-30 seconds. As new items are added, old ones are

discarded and lost if not rehearsed. If the information in the STM is rehearsed or undergoes through elaborative processing, it will go into long-term storage, which is relatively permanent compared to the other two stores. The items stored in the LTM (Long Term Memory) can stay for hours and days or even years. Whether new material can be processed from STM to LTM depends on the amount of work the learner's mind does on the new material.

One way to keep information in LTM is to process the information in an elaborative and deep analysis. In this way, the information can last longer and have stronger traces, leading to improved LTM. In learning foreign words, processing the meaning of the words deeply will help the learners to memorize them better (Craik & Lockhart, 1972). The more a word is analyzed and enriched by association or images, the longer it will stay in the memory. In other words, the deeper the processing is, the better the LTM is. This is the so-called levels of processing theory proposed by Craik and Lockhart (1972).

Another assumption about human cognition is called the dual coding theory. This theory emphasizes that two subsystems, the language-specialized system and the imagery system can be either independently active or functionally interconnected. Interconnections between the two systems allow for the dual coding of information. Through dual coding, learners can understand or successfully recall verbal information with the aid of the imagery system and vice versa.

Both subsystems have important functions in the encoding, storage, and retrieval of information. Information processed through both systems has an addictive effect on recall probably because the learner creates more cognitive paths for the retrieval of the information. For example, when a person sees the word "flower," he may simultaneously have a mental picture of the target word in his mind. If so, it is encoded in both the verbal and imagery systems. After a word has been processed

through dual coding, it will be easier for the person to recall the word when needed. In other words, dual coding is an effective way to process information received (Paivio, 1986).

An application of the dual coding theory is called the keyword method, one of the mnemonic techniques frequently used in language teaching. In the process, learners find a keyword in their mother-tongue similar to the target word they want to learn. At the same time, they are also requested to form a mental image relevant to the meaning of the keyword and the target word. This method has been proved effective in some Western teaching contexts. However, Nation (1990) argues that it is sometimes difficult for learners to find a keyword.

Wang and Yeh (2001) have conducted a study on the application of the dual coding theory. In their study, college freshmen were divided into three groups. Students in the first group had to read a text on the computer. Those in the second group were provided with both the text and the new words with pictures on the computer. Students in the third group were supplied with the text, the new words with pictures and audio interpretation from the computer. The results showed that the students who received dual representation of text and image on the computer most successfully earned vocabulary.

The two strategies mentioned earlier-- analyzing word parts and guessing word meaning from context-- have proved to be effective in learning vocabulary, but they are much suitable for advanced learners, due to the complicated processes involved. The learner need to be acquainted with the meaning of each word part formed in a word first in order to divide the words into meaningful units and then guess the meaning of a word effectively. The third strategy, the keyword method, is a very interesting strategy, but it requires the learner to use great imagination to find a phonetically similar keyword as well as to form a mental picture that links the

keyword and the target word. The fourth method, the dual representation of text and pictures on the computer is both useful and effective, but the disadvantage is that a computer is not always available anywhere and anytime. Moreover, the learners must know how to operate the computer very well. Teachers have the obligation to devise some other effective, interesting, and convenient strategies for learning vocabulary in case the well-known strategies mentioned above are not suitable for the students.

1.2 Statements of Problem

Intermediate or low level senior high school students in Taiwan often have low motivation to study English. For one thing, they have difficulty handling the numerous vocabulary items in their textbook. No matter how hard they have tried to memorize the words, they are apt to forget them quickly. Thus, they regard learning vocabulary as a painful and boring task. For another, most teachers take it for granted that as long as students pay attention to what teachers say in class and do rote learning on vocabulary repeatedly after school, they can memorize a large amount of vocabulary without difficulty. To put it another way, what teachers emphasize on teaching vocabulary is just instruction and hence they tend to neglect some useful strategies in vocabulary learning (Allen, 1983).

On the other hand, although some popular techniques such as analyzing word parts, guessing word meaning from context, and the keyword method have been claimed to be useful in vocabulary learning, they are not adequate for intermediate or low level EFL students.

The process of word parts analysis is too complicated for intermediate or low level EFL learners to follow. Cohen (1990) argues that by analyzing a word according to its parts, the learner may acquire an incorrect or inappropriate meaning for the given context. Again, as Nation (1990) mentions, prefixes, roots, and suffixes can be

useful skills for advanced learners. The learners need to have the ability to break new words into parts, i.e., roots and affixes. Besides, they also need to know the meanings of the parts. Finally, they have to bring the meanings of the parts together to assign a meaning to the whole word. In other words, before they can successfully analyze word parts and guess the literal meaning of the target word, they need to be equipped with much knowledge of roots and affixes and morphological rules. Thus, the technique of analyzing word parts remains a tremendously difficult job for senior high school freshmen.

The steps applied in guessing word meaning from the context are also too difficult for most intermediate or low level students to follow because some factors may interfere with the guessing attempts of the reader. First, when a text doesn't provide contextual clues for guessing the meaning of the unknown word, guessing word meaning from the context would become a useless strategy. Second, even if there are clues in the reading, they may happen to be unknown words to the reader. It is also impossible for the reader to guess the right meaning of the word (Laufer, 1997). A person needs to be equipped with 2,000-3,000 words or a vocabulary size of 3,000 word families to successfully guess word meaning from context (Nation, 1990; Laufer, 1997). However, most senior high school freshmen in Taiwan only acquire about 1,000 or so words in junior high school. Thus, their guessing turns out to be wild guess at best. Guessing is simply impossible because there are too many unknown words in reading.

Senior high school students in Taiwan seldom take advantage of the keyword method to effectively acquire vocabulary because it is hard for students with less imagination to find a keyword phonetically similar to the target word in Chinese. Chinese and English show extremely different phonological systems. Some phonemes cannot be found in Chinese (e.g., [ɵ], [ʃ], [ʧ], etc.). Moreover, each Chinese character

has at most three phonemes. But, many English words have more than three phonemes. Thus, students may need to find more than one Chinese character to form a meaningful unit, corresponding to the pronunciation of an English word. For students with less imagination, it is almost impossible to carry out the keyword method in learning vocabulary.

However, some research has successfully explored the effectiveness of the keyword method on how English-speaking learners acquire another language or how people in Western countries acquire English words. Although it is hard for students in Taiwan to find a keyword in Chinese, it is worth examining the effect of the imagery part of the keyword method.

1.3 Purposes of the study

The present study is based on two assumptions, the dual coding theory and levels of processing. Information processed under dual coding (e.g., texts plus pictures), a kind of deeper processing, is believed to lead to much longer retention in memory. Therefore, we want to explore the effectiveness of a teaching method, which takes advantage of visual images under the process of dual coding (i.e., drawing+text). In this study, students will be required to listen to the teacher's instruction and then draw their own pictures through their imagination according to the meaning of the word or the sentence in which the target word occurs. It is hoped that the study can help students to learn new vocabulary successfully, as well as develop a new vocabulary learning strategy.

1.4 Significance of the study

In Taiwan, albeit English teaching and learning have received much attention, students cannot do very well on listening, speaking, reading, and writing because of

limited vocabulary. Students spend much time doing rote learning to memorize new vocabulary items and sentence structures. However, the results are sometimes discouraging. This kind of frustration has made some students hate English and even give up learning English. It is hoped that the results of the study will provide both teachers and students with a brand new insight into vocabulary learning. Besides, teachers can take advantage of the study to provide their students with a more interesting and effective vocabulary learning strategy. Moreover, teachers and students can adjust their attitude toward how vocabulary can be learned.