THESIS

LEARNING CHINESE CHARACTERS: A COMPARATIVE STUDY OF THE

LEARNING STRATEGIES OF WESTERN STUDENTS AND EASTERN ASIAN

STUDENTS IN TAIWAN

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ABSTRACT

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Vocabulary acquisition is central to learning Chinese as second or foreign language. Little research has been conducted on vocabulary learning strategies in this area. Even less study has been conducted whether students from different native language background would apply vocabulary learning strategies differently. The present study was designed to address this gap. The major concern of this study was to explore whether students from Western alphabetic countries and students from Eastern Asian countries would apply different vocabulary learning strategies in Chinese vocabulary acquisition. All the participants are international students who currently reside in Taiwan and attending the same American School located in Taipei, Taiwan. Learning Chinese is mandatory in the school. An on line survey instrument was used to collect data from the students. Descriptive statistics were used. An independent samples t-test was used to assess whether students of different native language background showed significant differences in the application of vocabulary learning strategies.   No significant difference was found, however, suggestions regarding curricula design in learning Chinese vocabularies were made based on the tentative findings of this study.

CHAPTER 1

INTRODUCTION

Background of the Study

It is no secret that modern language enrollments in the United State education system have always been dominated by French, German, and Spanish. Other foreign languages such as Arabic, Chinese, Hindi, Indonesian, Japanese, and Russian, which are traditionally classified as less commonly taught languages (LCTLs), have occupied a marginal place in the educational system (Schleicher and Everson, 2006). Fortunately, as we move forward in to the 21st century, there are signs that LCTLs have started to gain more attention on the American foreign language education landscape (Schleicher and Everson, 2006). Among the many LCTLs, Chinese has definitely become one of the most prominent focuses. The need for greater capacity in the Chinese language has made headline news throughout the country and around the globe. In 2005, an issue of *Newsweek* magazine devoted a large segment of its content to the cover story entitled "China's Century" (Zakaria, 2005). It featured a story of the growth and interest in Chinese language learning in America.

In order to confront the difficult challenge of bringing LCTL learners to enhanced proficiency levels, the National Flagship Initiative (NFLI) of the National Security Education Program (NSEP) is co-sponsored by the federal government and higher education and designed to produce advanced-level speakers in a number of LCTLs with pilot programs ongoing in Arabic, Chinese, Korean, and Russian at U.S. campuses (National Security Education Program, 2004).

In the last decade there has been much growth in research in the field of teaching Chinese as a foreign language (CFL) (Everson, 1993). Some studies have investigated how L2 learners develop basic Chinese character recognition skills (Hayes, 1987, 1988, 1990; Sergent & Everson, 1992), some have studied how L2 learners process larger units of text (Everson, 1986, 1988; Everson & Ke, 1995). In addition, some have conducted methodological studies to investigate L2 learners' attitudes and approaches in character production and whether there is an optimum time to introduce characters into the beginning Chinese language curriculum (Packard, 1990). Above all the concerns and research in the field of learning Chinese as a Foreign Language, a call for proposals for a new and ambitious NFLI initiative in Chinese is most encouraging, it sets a target of the development of a K-16 pipeline project. According to this project, the objectives of the 2005 are to (a) establish a Chinese Flagship program that addresses the needs of students already at the advanced proficiency level and (b) work closely with one or more geographically proximate elementary/middle/high school systems to establish an articulated Chinese language program that progresses from the elementary grades into advanced Chinese at the university level. The expected outcome of the program is to equip students with superior level proficiency in Chinese (Schleicher & Everson, 2006). According to the National Foreign Language Center's (NFLC) Guide for Basic Chinese Language Programs, the goal is to lay a foundation for Chinese learners:

Learning basic Chinese involves mastering the initial states of fundamental processes with a high degree of competence and performance, and then using these processes to

increase inventory: new communicative conventions, new words, new grammatical structures, and new characters – not new process. (Kubler, 1997)

A survey conducted by the Chinese Language Teachers Association (CLTA) in 2000 reflected that what concerned teachers most regarding students' learning was Chinese character recognition ability and character writing (Ke, 2000). Since the Chinese character system is totally different from the Western Roman alphabetic system, where the visual symbols (characters) represent words rather than the sounds or phonemes that make up the word. This unique feature of Chinese character system has the greatest disadvantage of requiring the memorization of the words when learning to read and write. (DeFrancis, 1984). For most Chinese language learners, the mastery of Chinese characters could probably be the most difficult task they have ever faced in learning a foreign language (Everson, 1998).

The world-wide increasing interest in learning Chinese in recent years resulted in high enrollment in Chinese-language classes not only from students whose native languages are Roman alphabet origins, for example, English speaking countries, German, and France, but also from students of other Eastern Asian countries, primarily Japan and Korea, whose languages have been heavily influenced by Chinese language.

As a matter of fact, a vast number of Japanese words were borrowed from Chinese, or created from Chinese models over a period of at least 1,500 years. While in Korea, a huge number of Chinese words were borrowed and the Chinese writing has been known in Korea for over 2,000 years. It is obvious that to students whose native language is western alphabetic base learning Chinese is especially difficult due to the

nature of its language system (Everson, 1998; Ke, 1998; Yin, 2003). On the other hand, will learning Chinese be easier for students who have been familiarized with the unique Chinese writing system because of the historical connections of their countries?

Having students of divided language backgrounds in a single Chinese-language class not only created a special and complex learning environment but also creates instructional challenges for instructors. To design appropriate lessons and instruction methods to meet students' needs because of their different native language backgrounds has become a significant challenge for Chinese-language instructors as well as for institutions that provide the programs.

It has been said that learning a second language means learning its vocabulary (Gass, 1999). Vocabulary acquisition is now commonly believed as one of the most important tasks in the learning of a language. Actually, vocabulary acquisition and teaching is the area which has developed fastest in the research of Second Language Acquisition (Oxford, 1990). Schmitt (2000) also claims that vocabulary learning is central to language acquisition, whether the language is first, second, or foreign. The changed attitude and increased interest toward the vocabulary topic are benefited by the expanded experimental studies and pedagogical demands. Since the mid-1980s, the role of vocabulary in second language learning has gained a renewed interest as can be seen in a growing amount of empirically based studies in the areas such as the nature of the bilingual lexicon, vocabulary acquisition, lexical storage, lexical retrieval, and use of vocabulary by second language learners. Laufer (1986) points out that from the beginning

level all the way up, vocabulary development is one of the most strenuous tasks for foreign language learners. Laufer said:

Recent findings point to the fact that lexical problems might be even more important than those in phonology and syntax…Moreover, learners themselves often claim that lexis is their greatest difficulty in L2. Any experienced teacher knows that even after students have mastered grammar, they still face masses of unknown words (p. 131)

Experts like Meara (1996a); Lawson & Hogben (1996); and Singleton (1999) claimed that vocabulary competence is at the heart of communicative competence and that the major challenge of learning and using a second language lies in the mastery of its vocabulary. Nation (2001), recognized as one of the world's leading authorities on L2 vocabulary, stated that vocabulary learning plays a significant role in a language class program. According to Nation (2001), a balanced language course should consist of four essential elements: 1) meaning-focused input; 2) language-focused learning or sometimes called form-focused instruction; 3) form-focused output; and 4) fluency development. All these four elements are closely related to a learner's vocabulary quality and quantity. Nation emphasized that without sufficient vocabulary as the learning foundation, a learner can hardly become fluent in the target language.

However, even though vocabulary has gained status as an important component of second/foreign language acquisition, and a number of steps have been taken in its study, there is still a long way to go. The system of vocabulary acquisition rules has not been established, and vocabulary teaching is not as systematized as the techniques of teaching

phonology and syntax. Moreover, the majority of the studies of vocabulary acquisition are limited to Roman alphabet-based Indo-European languages such as English, French, and Spanish (Schmitt, 1997). Despite the increasing interest in vocabulary acquisition in second language learning, in the studies of learning Chinese, this topic has not caught as much attention as it has in the acquisition study of other languages. In other words, vocabulary acquisition in CSL/CFL has received scant research attention.

In the perspective of language learning, we cannot view words or vocabulary as isolated units of language, because there are many things to know about any particular word and there are many degrees of knowing. Nation (1990) stated that different words have different learning burdens for learners with different language backgrounds and each of the aspects of what it means to know a word can contribute to its learning burden. He further claimed that the more a word represents patterns and knowledge that learners are already familiar with, the lighter its learning burden. Based on this statement, we can then estimate that for learners whose first language is closely related to the second language, the learning burden of most words will be lighter; on the other hand, for learners whose first language is not related to the second language, the learning burden will be heavier. Accordingly, it is not unreasonable to predict that the learning burden where the L1 and target language have little relation or completely different, for instance, Chinese learners of English or vice versa English learners of Chinese, could be 'very heavy'.

Research has confirmed more and more strongly that mother tongue has a considerable influence on the way a second language (including foreign language) is

learned and used (Odlin, 1989; Perdue, 1993). However, how much the mother-tongue

helps and how much it hinders learning remain unknown. Swan (1997) suggests that

language distance and the realism of the learner's hypotheses about transferability might

play significant influence when involving the concern of mother-tongue. This might

explain the problems English learners have with Chinese tones, and the unique Chinese

orthographic architecture (Cossu, 1999; Koda, 1996).

In L2 Chinese vocabulary acquisition, the L1 and L2 distance effect and L1 to L2

transfer effect can greatly affect ease or difficulty of learning (Koda, 1996, 1997; Swan,

1997). Swan mentioned that even though there are virtually no cognates between

Spanish and Hungarian, the new words in general express familiar concepts and are often

semantically congruent due to their mother tongue roots; so that a good deal of semantic

transfer is possible. This is far less the case for a Hungarian learning Chinese, not only

because the words are quite different in the two languages, but there is also far less

overlap between the concepts that they express. In other words, the two languages are

too distant from each other and there is little to transfer between each other (Swan, 1997).

Researchers also indicate that under such circumstances, L2 word processing can be very

difficult and slow (Everson, 1988; Mori, 1998).

Koda (1996) pointed out that if two languages share similar orthographic systems,

the development of the L2 word recognition could be facilitated greatly. On the other

hand, different orthographies foster different strategies for setting up the orthographic

architecture, and consequently, require different processing skills. Chinese is considered

as an orthographically deep language, that is, the degree of regularity in sound-symbol

correspondence is very limited which means if one knows the sound form he/she may not know the written form. In Mori's (1998) study, she found out that for students in the alphabetic language background group, phonologically accessible words were easier to manipulate than phonologically inaccessible words.

Theories of Second Language Acquisition proclaim that appropriate instruction and strategy training facilitates and accelerates the process of second language vocabulary acquisition, which is the basis of second language acquisition. To pursue a fruitful line of initial research into the area of learning Chinese as second/foreign language, a starting point is to document the strategies used by Chinese language learners when they learn Chinese characters, the written units, which represent the phonology of the spoken Chinese in a largely unsystematic manner.

Generally speaking, learning strategies are commonly defined as behaviors, techniques, or actions used by learners to enhance their learning. Weinstein & Mayer (1986) said that learning strategies are "behaviors or thoughts that a learner engages in during learning that are intended to influence the learner's encoding process" (p.315). Since the early seventies, the focus of research in second or foreign language has been shifted from teaching method oriented (e.g., "Total Physical Response", "Community Language Learning", "the Silent Way", etc.) to learner-oriented (e.g., the characteristics of language learners and their own influence on the process of language learning) (Wenden & Rubin, 1987). Oxford (1990) indicated that the new attention has an emphasis exclusively on "how learners go about their learning tasks in a second or foreign language" (p. vii). More specifically, how learners can make use of learning

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strategies to help them become more independent, autonomous, and effective language learners is a new research focus in the field of second or foreign language learning (Wenden & Rubin, 1987; Oxford, 1990). Oxford (1990) further indicated that making learners aware of the various language-learning strategies and integrating appropriate learning strategies into the language curriculum can efficiently assist learners' foreign-language learning. Oxford (1990) stated:

> The dissemination of notions about learner strategies in language learning means the supplying of potentially beneficial means for improving target-language learning. It does not mean the imposing of dubious and largely irrelevant categories on learners from cultural groups for which such categories may be inappropriate…[L]earners from a multiplicity of backgrounds can find benefit in one or another set of learning strategies. Once learned, some of these strategies become automatic among learners, while others need to be consciously called into play by the learner or by the teacher in order to be accessible. (p.1).

Cohen (1988) defines language learning and language use strategies as:

> …those processes which are consciously selected by learners and which may result in action taken to enhance the learning or use of a second or foreign language, through the storage, retention, recall, and application of information about that language. (p.4)

Cohen (1988) went on to say that such strategies:

> Include strategies for identifying the material that needs to be learned, distinguishing it from other material if need be, grouping it for easier learning

(e,g., grouping vocabulary by category into nouns, verbs, adjectives, adverbs, and

so forth), having repeated contact with the material (e.g., through classroom tasks

or the completion of homework assignments), and formally committing the

material to memory when it does not seem to be acquired naturally (whether

through rote memory techniques such as repetition, the use of mnemonics, or

some other memory technique). (p. 5)

Research on general second language learning strategies has provided a basis for

studies on vocabulary learning strategies. A number of research studies have explored

the strategies that second/foreign language learners employ in vocabulary acquisition

(Brown & Perry, 1991; Sanaoui, 1995). Schmitt (1997) indicated that combining the

results from general learning strategy research with those from more vocabulary-specific

studies allows us to derive a number of tentative general conclusions about vocabulary

learning strategies. Chamot (1987) found that high school ESL learners reported more

strategy use for vocabulary learning than for any other language learning activity.

Schmitt explained that the higher use of strategy in vocabulary learning is the result of

learners' awareness of the importance of vocabulary (Schmitt, 1997). Nation (2001) also

stated that vocabulary learning strategies are a part of language learning strategies which

in turn are a part of general learning strategies. Many other researchers (Brown & Perry,

1991; Lawson & Hogben, 1996, Sanaoui, 1995) have explored the strategies that foreign-

language learners employ in vocabulary acquisition and concluded that "good"

vocabulary learners use substantially more learning strategies than "poor" vocabulary

learners. They also indicated that successful foreign-language learners employed a wider

variety of approaches to acquire new vocabulary and used them more consistently than did less-successful language learners.

Statement of Problem

Despite the fact that many researchers have explored the strategies that foreign language learners employ in vocabulary acquisition, it is evident that most of those researches were limited to Roman alphabet-based European languages such as English, French, and Spanish. Only a few research studies have been conducted with respect to Chinese language learning and acquisition and even fewer research studies have been conducted regarding Chinese vocabulary learning strategies. McGinnis (1995) for example, identified some strategies that first-year Chinese-language students used in learning Chinese characters. Ke (1996) used an instrument consisting of a character-recognition task and a production task to investigate the effects of language background on success in the learning of Chinese characters by first-year college students of Chinese. Everson (1998) found that there is a significant relationship between being able to pronounce and being able to identify Chinese words. Further discussions regarding the above mentioned studies will be revealed in chapter 2.

Purpose of the Study

As was stated at the beginning of this chapter, the purpose of this study is to investigate and compare Chinese-vocabulary learning strategies employed by those learners whose native language is Roman alphabet-based and those East Asian students (Often, Japanese and Korean) whose native language was heavily influenced by the character-based Chinese language. It is our hope that the result of this study may

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contribute to a greater understanding of the processes of Chinese-character learning and that the information gained from this study will help Chinese-language instructors not only to know their students' strategies and approaches to learning Chinese characters, but also to motivate those instructors to design more efficient and practical Chinese-language curricula which will enhance the learning experience and outcomes for both student groups. Furthermore, it will also help Chinese-language learning students to have a knowledge base of a better more informed idea about what strategies might be more efficient to the acquisition of Chinese vocabulary.

Research Questions

This research is guided by the following research question and methods:

- Will students whose native language is western alphabet-base use different Chinese vocabulary acquisition strategy than those East Asian students whose native language was deeply influenced by Chinese language?

- An online survey questionnaire was created and administered to high school students of an American School in Taipei, Taiwan (Appendix I). Thirty three participants were asked to complete a questionnaire consisting 55 vocabulary learning strategies and eight open-ended questions.

- A five-point Likert scale was used to evaluate how true each statement was to him/her on a 5-point scale: 1=never or almost never true of me; 2=usually not true of me; 3=somewhat true of me; 4=usually true of me; and 5=always or almost always true of me.

Chapter Summary

      This chapter included the introduction, background of the study, the importance of vocabulary acquisition in second/foreign language learning, learning strategies, vocabulary learning strategies, some insights of current international interests in learning Chinese as second/foreign language were discussed, and finally, the purpose and significance of the study were specified. The next chapter, Chapter Two, will review the literature related to the research topic. Chapter Three will discuss the methodology for the study. Chapter Four will present the results of the study, and Chapter Five will discuss the results and final conclusions will be offered according to the results.

CHAPTER 2

LITERATURE REVIEW

The purpose of this chapter is to provide a broad understanding of the grounding concepts and current issues in Chinese vocabulary learning strategies in the field of second/foreign language vocabulary acquisition (acquisition and learning will be used interchangeably in this study). Six areas will be explored in this chapter:

- understanding Chinese characters;

- learning Chinese as second/foreign language;

- vocabulary acquisition in another language;

- learning strategies in second/foreign language acquisition;

- vocabulary learning strategies in second/foreign language acquisition;

- Chinese vocabulary acquisition.

Since the current study aims to compare Chinese vocabulary learning strategies used by students whose native language is Roman alphabet-based and students whose native language is either alphabet-based or character-based and has been deeply influenced by Chinese language, it is important to begin with a thorough review of second language learning strategies and with special emphasis on vocabulary learning strategies. However, before we dig deeper into the issue, it is also important for us to familiarize with the specific terminology commonly used in this field of language learning. For example, people always get confused to whether to refer to the language being learned as the *second language*, the *foreign language*, or the *target language*. I think before we explore the area of learning strategies, which are directly related to the

present study, a brief pre-explanation of those italicized terms will contribute a better understanding of this chapter.

Cohen (1998), Oxford (1995), and Gass (2001) have all explicitly defined the differences among second language, foreign language, and target language. According to these researchers, learning a second language, which is commonly referred to as 'L2', means that the language being learned after the native language has been learned is that which is spoken in the local community, in other words, it refers to the learning of a nonnative language in the environment in which that language is spoken and where abundant input can be easily accessed in that language (e.g., English speakers learning Mandarin Chinese in Taiwan or Japanese speakers learning English in the United Kingdom). The learning of a foreign language, referred to as 'FL', is differentiated from learning second language in that it is taken place in the environment of one's native language, or the foreign language is not spoken in the local community, the input and access of that language are restricted and the learning is predominantly accomplished within the context of the classroom (e.g., Korean speakers learning Chinese in Korea, English speakers learning French in the United States). The term target language, which is commonly referred to as the 'TL', is simply indicating to the language being learned, whether as a second language or foreign language. In the current research study, the term L2 will be used to refer to either a second or a foreign language.

Understanding Chinese Characters

The possible precursors of Chinese characters appeared as early as 8,000 years ago, and a complete writing system in Chinese characters was developed around 3,500

years ago in China, making it perhaps the oldest surviving writing system in the world (DeFrancis, 1984). The modern Chinese language has a large amount of vocabulary, the number of Chinese characters contained in the Kangxi Dictionary (the standard Chinese dictionary published in 1716 by the Kangxi Emperor of the Manchu Qing Dynasty) is approximately 47,035, although a large number of these are rarely-used variants accumulated throughout history (DeFrancis, 1984).

Chinese language has long been adopted in other East Asian languages, such as Japanese, Korean, and Vietnamese (Mori, 1998). For example, "Kanji is regarded as the Japanese version of Chinese characters" (Shu, Anderson & Zhang, 1994, p.5). Literally, the term "Kanji" is derived from Chinese "Hanzi" (Chinese characters as "漢字"), however, these two labels are not completely synonymous, since some "Kanji" are different from Chinese "Hanzi" in meaning and pronunciation. Officially, there are 2,000-odd "Kanji" imported from Chinese (Houser, Yokoi & Yasuda, 2000). "Korean writing has also used a mixture of Chinese characters and purely phonetic symbols" (DeFrancis, 1984, p.71). Grammatically, Korean is very similar to Japanese and about 70% of its vocabulary came from Chinese. As for Vietnamese, the indigenous "Nom" characters look like Chinese characters but are unintelligible to readers of Chinese (DeFrancis, 1984, p.71). In all these four countries, the term "Chinese character" is usually clear enough to indicate what we now called Chinese characters.

In modern Chinese, most words are compounds. These words are formed by combining two or three monosyllabic morphemes together. Each morpheme, in the Chinese writing system can be singled out as a written character with its own meaning.

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The meaning of a compound character can be derived from the meaning of its morphemes or characters. Even though the total number of Chinese characters is truly huge, but commonly used ones are much fewer. About 3,800 common characters can cover 99.90% of Chinese reading materials (Zhang, 1992). In a list of common characters in modern Chinese (Xian-Dai Han-Yu Chang-Yong-Zi Biao 現代漢語常用字 表) (1987) 2,500 characters are listed as the most-frequently used characters that comprise 97.97% of Chinese reading materials; another 1,000 characters were determined as second most frequent characters comprise 1.51% of Chinese reading materials, in other words, almost 99.64% - 99.90% of general reading materials are covered by 3,000 to 4,000 characters.

The peculiar Chinese writing system has long been a great challenge for students to master, especially given the fact for those students whose native language is represented in print by the Roman alphabet. Each Chinese character represents a word or morpheme where the pronunciation is almost impossible for beginning learners to discern from the structural properties of the actual character (Schleicher & Everson, 2005). The Chinese character rather than word is the basic unit of Chinese orthography. Many Chinese and western scholars have described the Chinese language and given a number of different designations for Chinese characters that will be revealed next.

It is universally agreed that Chinese characters originated from "pictographs" (DeFrancis, 1984). This widespread designation indicates that the basic units of writing in Chinese are pictures divorced from sound. However, many other specialists apply this designation only to the earliest characters in Chinese. Another widely used term is

"ideography". For some people, this term is used to designate written signs that represent abstract and concrete ideas without regard to sound (DeFrancis, 1984). Another well known classification of the Chinese language is "logographic" language, that is, a graph that represents a word. Some people even argue that "syllable and character represent at most not a word but a morpheme" (the smallest unit of meaning) described through a modification of the logographic concept by the term "morphographic" (DeFrancis, 1984, p.72). Mori (1998) describes Chinese characters as "morpheme-syllable writing system". Still others believe that a word in Chinese is a syllable in speech and a character in writing. Yang (2000) notes that "the Chinese writing system, employing characters that are morpho-syllabic in nature that has a 'deep' orthography, which implies that the correspondence between the written symbol and speech sound is irregular and unsystematic". To sum up, even though scholars could have different opinions about their beliefs of the Chinese language, the truth is that all the above described designations represent the nature of Chinese from different angles.

As it is a matter of universal acceptance that Chinese characters originated from pictographs. It is the general, if not quite the overall admitted opinion among specialists on this subject, that all writing originated in the drawing of pictures (Gelb, 1963). From the pictograms, numerous non-pictographic characters were developed both to cover words for abstract concepts and to increase the efficiency of writing. The various types of characters were first classified by the Chinese linguist Xu Shen, whose etymological dictionary *Shuowen Jiezi* (說文解字) divides the script into six categories (DeFrancis, 1984, pp 79-81): (a) Pictographic characters (象形字, *xiangxingz);* (b) Ideographic

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characters (指事字, zhishizi); (c) Logical aggregates (會意字, *huiyizi*); (d) Semantic-phonetic compounds (形聲字, *xingshengzi)*; (e) Associate Transformation (轉注字, *zhuanzhuzi*); (6) Borrowing (假借字, *jiajiezi*).

Pictographic characters (象形字, xiangxingz)*.* One of the striking things about this category is the fact that pictograms only make up a small portion of Chinese characters which is totally contradict to popular belief that Chinese characters are mainly pictograms. There is an estimate of only 4% of characters fell into this category. Examples include 日 for "sun", 月 for "moon", and 木 for "tree".

Ideographic characters (指事字, zhishizi)*.* Idiographic characters are also called simple indicative, simple ideograph, or ideograms. Characters in this category either add indicators to pictographs to make new meanings, or illustrate abstract concepts directly. This can be illustrated by the characters 一 for "one", 二 for " two", and 三 for "three". Other common examples are 上 for "above", and 下 for "below".

Logical aggregrates (會意字, huiyizi)*.* Logical aggregates are also translated as associative compounds. The characters in this group are all compound or multielement graphs to symbolize abstract concepts. A well known example of this group is the combination of pictographs of 日 ("sun") and 月 ("moon") makes 明 ("bright"), which is traditionally interpreted as symbolizing the combination of sun and moon as the natural source of light. Another stock example is putting two pictograms of 木 ("tree") together makes 林 which means "forest".

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Semantic-phonetic compounds (形聲字, xingshengzi)**.** Also called pictophonetic compounds, or phono-semantic compounds, this category represents the largest group of characters in modern Chinese. Approximately 90% of characters fall into this category. It is a combination of "phonetic" elements with "semantic" elements to form a new character. What DeFrancis (1984) has designated as the "phonetic element" is usually called "phonetic" and refers to a syllable of sound. DeFrancis' (1984) "semantic element" is designated as key classifier, or radical which suggests the general meaning of the character. Examples are 河 ("river"), 湖 ("lake"), 流 ("stream"). All these characters have on the left a radical of three dots, which is a simplified pictograph for a water drop, indicating that all these characters have semantic relation with water; the right hand are then phonetic indicators.

Associate transformation (轉注字, zhuanzhuzi). Characters in this category are rare. In modern systems this group is often omitted or combined with other categories. A famous example in this category are 考 ("to test") and 老 ("old") they both shared same character meaning of "elderly person", but were gradually detached into two separate words with different meanings.

Borrowing (假借字, jiajiezi)**.** Borrowing words are also called phonetic loan characters. This category has its specialty where existing characters are used to represent unrelated words with similar pronunciations; sometimes the old meaning is then lost completely. For instance, the character 自 was originally indicating *nose* and now it means *oneself* ; the character 萬 has lost its original meaning of *spider* and is now used in the sense of *ten thousand*.

To summarize, it is true that learning Chinese language means learning its characters. From the beginning level all the way up, Chinese character acquisition is one of the most important fundamental tasks of all learners. Even though reports or discussions of vocabulary learning strategies used by learners of Chinese are very limited, it is definitely a critical topic to be explored as will be illustrated in this thesis.

Learning Chinese as Second/Foreign Language

In the United States, there has been a growing interest in learning Chinese in recent years. For even the most casual observer of current events, it is difficult not to be struck by the abundance of news dealing with countries whose inhabitants speak what are often referred to as less commonly taught languages (LCTLs), China is definitely a prominent one among those countries. An issue on *Newsweek* magazine devoted a large segment of the magazine's content to its cover story entitled "Does the Future Belong to China" (Zakaria, 2005) prominently featuring a story of the growth and interest in Chinese language learning in America and as well as in the world. According to news reports, there are now about 20 million students learning Chinese as a foreign or second language in the world (Learning Chinese, 2003). In 1988, in the United States alone, more than 80 universities have established degree programs in Chinese, and more than 700 American universities offer Chinese as a foreign language (CFL), as a matter of fact, research that focuses on how learners deal with such a different language system as Chinese will be of critical importance (Everson, 1993). Scott McGinnis, an academic adviser at the Defense Language Institute in Washington, said that the number of Chinese language programs around the country, from elementary school through adult programs,

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has tripled in 10 years (1995). Experts also estimate that up to 50,000 students are

studying Chinese in elementary and secondary schools in the United States. Many are in

cities like New York and San Francisco that have large numbers of Chinese-American

students, and many take lessons after school or on weekends (Ruethling, 2005, October

15). It is not unreasonable to predict that the number of students studying Chinese

language will be increasing rapidly as we move more deeply into the 21st century.

Vocabulary Acquisition in another Language

It is universal truth that learning vocabulary (lexis) in another language has never

been an easy task in the history of second/foreign language learning and it is indeed a

vocabulary acquisition has been gaining a significant important role in the field of

learning a second/foreign language (Lewis, 1993). There are numerous reasons for

believing that vocabulary is important in second language acquisition. In fact, it may

very well be the most important language component for learners.

In the past few decades L2 vocabulary acquisition has been an area of renewed

interest in the field of second language learning. Given the current focus on vocabulary

study in the field of language study, it is not striking to say that vocabulary learning is

complex process involving many interrelated factors. As we enter the 21st century,

central to language acquisition, whether the language is first, second, or foreign.

Gass (1999) has said that learning a second language means learning its vocabulary.

However, to many outsiders of the field, it might surprise them to discover that, for about

a century, vocabulary was a neglected area of study in the language classroom due to the

assumption that vocabulary could simply be left to take care of itself (Schmitt, 2000).

The changed attitude and increased interest toward the vocabulary topic are benefited by the expanded experimental studies and pedagogical demands. Since the mid-1980s, the role of vocabulary in second language learning has gained a renewed interest as can be seen in a growing amount of empirically based studies in the areas such as the nature of the bilingual lexicon, vocabulary acquisition, lexical storage, lexical retrieval, and use of vocabulary by second language learners. Laufer (1986) points out that from the beginning level all the way up, vocabulary development is one of the most strenuous tasks of foreign language learners. Laufer's (1986) study indicates the following:

> Recent findings point to the fact that lexical problems might be even more important than those in phonology and syntax…Moreover, learners themselves often claim that lexis is their greatest difficulty in L2. Any experienced teacher knows that even after students have mastered grammar, they still face masses of unknown words. (p.131)

Experts like Meara (1996a) and Singleton (1999) claimed that vocabulary competence is at the heart of communicative competence and that the major challenge of learning and using a second language lies in the mastery of its vocabulary. As stated earlier, Laufer (1997) cited McCarthy (1990) and noted that communication cannot happen in any meaningful way no matter how well a student learns other aspects of a language if they haven't acquired enough words to express a wide range of meaning. Gass (1988b) seconded this argument, noting that grammatical errors generally result in structures that are understood, whereas lexical errors may interfere with communication. Nation (2001), recognized as one of the world's leading authorities on L2 vocabulary,

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stated that vocabulary learning plays a significant role in a language class program; he declared that a balanced language course should consist of four major strands. Even though these strands may appear in many different forms, but they should all be present in a well-designed course. According to Nation (2001) the four language learning strands are: 1) comprehensible meaning-focused input; 2) language-focused or form-focused input; 3) meaning-focused output; 4) fluency development. As can be seen clearly, all these four elements are closely related to a learner's vocabulary quality and quantity. In addition to the belief in balanced language learning and teaching, Nation also emphasized that it is still worth stressing that meaning-focused input and output are only effective if learners have sufficient vocabulary to make language learning strands truly meaning-focused (Nation, 2001).

In the perspective of language learning, we cannot view words or vocabulary as isolated units of language, because there are many things to know about any particular word and there are many degrees of knowing (Nation, 1990). On the process of vocabulary acquisition in second language learning, two major concepts were adopted. One is the 'learning burden' of a word. Nation (1990) stated that different words have different learning burdens for learners with different language backgrounds and each of the aspects of what it means to know a word can contribute to its learning burden. He further claimed that the more a word represents patterns and knowledge that learners are already familiar with, the lighter its learning burden. Based on Nation's statement, we can then estimate that for learners whose first language is closely related to the second language, the learning burden of most words will be light; on the other hand, for learners

whose first language is not related to the second language, the learning burden will be heavy.

The second major concept of Nation's theory is the receptive/productive scale of knowledge and how it applies to each aspect of vocabulary knowledge. Among the four language skills, listening and reading were always distinguished as 'receptive' skills while writing and speaking were distinguished as 'productive' skills (Nation, 2001). It is broadly accepted that 'receptive' carries the idea that we receive language input from others through listening or reading and try to comprehend it, 'productive' that we produce language forms by speaking and writing to convey messages to others (Crow, 1986). However, there exist debates about whether receptive and productive are completely suitable terminology to describe the distinctions among the four language skills. Some experts like Meara (1990a), Corson (1995), and Laufer (1998) proposed that there are productive features in the receptive skills – when listening and reading we produce meaning. In the place of receptive and productive, they used the terms 'passive' for listening and reading and 'active' for speaking and writing. No matter which term we apply here, the essence of the spirit is that receptive (passive) vocabulary use involves perceiving the form of a word while listening or reading and retrieving its meaning. Productive vocabulary use involves wanting to express a meaning through speaking or writing and retrieving and producing the appropriate spoken and written word form (Long & Richard, 2001).

DeBot et al. (1997) classified vocabulary into comprehensive input through two modalities: phonetic comprehension (PC) and graphic comprehension (GC); and

productive output also through two modalities: phonetic production (PP) and graphic

production (GP). Word processing studies have speculated that comprehensive

vocabulary processing, which corresponds to receptive or passive vocabulary, is lexically

mediated and is faster, while productive vocabulary processing is conceptually mediated

and is slower (Kroll, 1993). Although it is not clear why receptive process seems easier

than productive process, there are several possible explanations (Ellis & Beaton, 1993):

1. The 'amount of knowledge' explanation. For receptive use, learners may only

   need to know a few distinctive features of the form of an item. For productive

   purposes their knowledge of the word form has to be more precise (Crow, 1986).

2. The 'practice' explanation. Receptive use generally gets more practice than

   productive use.

3. The 'access' explanation. From the perspective of receptive direction, there is

   only one simple link (unidirectional) to first language translation nevertheless

   productive direction recalls many competing paths to choose from (bi/multi

   directional) (Meara, 1990a).

4. The 'motivation' explanation. Learners are always unlikely to use certain kinds

   of vocabulary productively even though they are capable of using it (Corson,

   1995).

Studies from the foreign language teaching have also reported repeatedly that

learners' comprehension vocabulary is much larger than their productive vocabulary (Ke,

1996; Altman, 1997; Laufer, 1998). Although it might be true that the receptive

vocabulary size is larger than productive vocabulary, it can only tell us how many words

a L2 learner can possess, but it can't inform us how individual words are acquired. Those of us who have learning second language and/or foreign language experience have all experienced that there are times which we can understand certain words perfectly well in a conversation or in a text, but have difficulties to remember at the time we want to use the words in a productive way. The opposite situation is also possible. Some words we have learned and can use perfectly well in spoken discourse but we might not be able to recognize them from a written context.

What does "knowing a word" mean?

"Words are not isolated units of language, but fit into many interlocking systems and levels" (Nation, 1990, p.23). There are many things involved in knowing about any particular word and there are many degrees of knowing. In most linguistic analyses a word is described as a set of properties or features (Laufer, 1997). Nation (1990, p.31) lists the following as word knowledge types necessary if one is to consider to have complete knowledge of a word.

      a. Spoken form

      b. Written form

      c. Grammatical behavior

      d. Collocation behavior

      e. Frequency

      f. Stylistic register constraints

      g. Conceptual meaning

      h. Word associations

Laufer (1997) also stated that it is generally agreed that knowledge of the following features are necessary in order to know a word:

a. Form – spoken and written or in other terms pronunciation and spelling.

b. Word structure – the basic free morpheme (or bound root morpheme) and the common derivations of the word and its inflections.

c. Syntactic pattern of the word in a phrase and sentence.

d. Meaning – referential, affective, and pragmatic.

e. Lexical relations of the word with other words, such as synonymy, antonym, hyponymy.

f. Common collocations.

Although it could be true that knowing a word would ideally imply familiarity with all the features listed above, however, in the case of not only L1 learning, but also L2 or foreign language learning, knowing may be and always be partial. For example, there are words which learners know in the sense of knowing what they mean in certain contexts, but which they cannot use productively. In non-alphabetic language, Chinese for example, the word structure might be completely different from alphabetic languages, there is no clue a learner can learn its inflectional structure because inflection is totally invisible in the language.

Researchers have confirmed more and more strongly that mother tongue has a considerable influence on the way a second language (including foreign language) is learnt and used (Odlin, 1989). However, how much the mother-tongue helps and how much it hinders learning remain unknown. Swan (1997) suggests that language distance

and the realism of the learner's hypotheses about transferability might play significant influence when involving the concern of mother-tongue. This might explain the problems English learners have with Chinese tones, and the unique Chinese orthographic architecture (Cossu, 1999; Koda, 1996).

Ideally, knowing a word would imply familiarity with all its features, as is often the case with educated native speakers. However, Laufer (1997) claims that this is not always the case in language learning, since a learner may have mastered only parts of a word's features but not all of them. For example, there are words which learners know in the sense of knowing what they mean in certain contexts, but they may not have the ability to use them in a productive way.

From a sociolinguistic perspective, more emphasis is placed on what second/foreign language learners can do if they know the words, or emphasizing a learner's knowledge of performing the vocabulary. Communicative functions, behaviors, and pragmatics of a word are often included in this definition. Such an approach can be seen in Nation (1990) and Laufer and Paribakht's (1998) definitions of what it means to know a word. Nation (1990) explained that to know a word means to know receptively and productively the form (spoken and written), use (grammatical functions, and collocations), and meaning (concept and associations) of a word. According to Nation's explanation, the receptive knowledge of a word's form tells us what a word sounds like and what it looks like; while the productive knowledge tells us how the word is pronounced and how the word is written and spelled. The receptive knowledge of a word's meaning not only tells us what it means individually but also reminds us of other

words, while the productive knowledge tells us what idea to use it for, and what other words can replace it. The receptive knowledge of a word's use informs us in what patterns the word occurs, what words or types of words occur with this one and when, where, and how often would we expect to meet this word. While the productive knowledge of the use of a word tells us in what patterns must we use this word, what words or types of words must we use with this one, and where, when, and how often can we use this word (Nation, 2001).

Vermeer (1992) also gives his point of view on what "to know a word" means. He describes the mental lexicon as a place where all kinds of information about a word are stored: phonological, morphological, syntactic and textual, pragmatic and semantic. The knowledge of a word consists of all these aspects in both receptive and productive ways. In his explanation, the phonological information entails sound patterns, pronunciation and spelling. The morphological information encompasses derivations, conjugations and compounding. The syntactic and textual information regulates word classes and their possible relations to other word classes and sentences. The pragmatic information ensures the social and stylistic adequacy of word use. And finally, the semantic information is about the meaning of a word, with all its connotations, which refers to the concept and the conceptual network of that word (Vermeer, 1992).

To sum, knowing a word means knowing its multiple features in full. It involves many degrees of knowledge to know a word. The knowledge of a word is not a simpleton process but rather a continuum. A learner may know only some aspects of a word at the initial stages of learning. However, through successive encounters of the

word in various contexts and in different learning stages, more and more features may be acquired and more thorough knowledge of the word can be achieved. It is the interest of this study to explore what kind of strategies the target students use when they are learning Chinese as second language.

Vocabulary learning goal. It is essential to be able to set learning goals when we plan a long-term vocabulary course. Nation (2001) suggested three basic information to consider before setting the goal in a very general way: 1) the number of words in the target language, 2) the number of words known by native speakers, and 3) the number of words needed to use the language. In a more specific way, we can consider all the aspects of what is involved in knowing a word (see previous section) and decide which of these is the learning goal of a vocabulary learning activity. For example, is the learning goal to learn the spelling of some words, their pronunciation, or, more commonly, to recognize a word form and link it to its meaning? According to Nation (2001), when looking at learning goals and analyzing how a goal will be reached, it is simplest to consider only one learning goal at a time. However, most learning activities can achieve several learning goals simultaneously. For example, the 'guessing from context' activity can help learners know the word meaning and its collocates; a 'keyword technique' can help learners link form to meaning; a 'split information task with annotated pictures' activity can bring receptive vocabulary into productive vocabulary.

Undoubtedly, in order to reach each vocabulary learning goal, the knowledge or information that makes up that goal needs to be available. For example, words' meaning can come from textual input such as a reading or listening text, or the context provided on

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a worksheet; information can come from a reference source such as a teacher or a dictionary, or it can come from the learners in a group who already know something about the word (Nation, 1990).

   ***Factors affecting second language vocabulary acquisition*.** Language teachers have always known that learner's mother tongue has a considerable influence on the way a second or foreign language is learned and used. Swan (1997) indicates that the influence of mother tongue may happen when 1) a learner acquires new vocabulary, 2) he or she tries to recall and use previously-learned vocabulary, and 3) he or she tries to construct a complex word or expression that has not already been learned as a unit. However, whether the mother tongue can support, fail to support or actively hinder someone who is learning or using the vocabulary of a second language is not an easy task to be determined. Here we can boldly assume that when the target language is closely related to a learner's native language, for example, they share a great deal of cognate vocabulary, or there tend to be close translation equivalents: this can give the learner a great advantage. Conversely, if languages are quite different or have much less common ground, it tends to be more difficult for a learner to learn the language. For instance, studies by Odlin (1989) have demonstrated that Swedish- and Spanish-speaking learners of English acquire vocabulary faster and more successfully than Finnish- and Arabic-speakers. Swan (1997) also indicates that difference of phonological structure may also influence vocabulary learning. Laufer (1990) said that it is easiest to assimilate when foreign words conform more or less to the phonetic and orthographic patterns of the

mother tongue. And this contributes the reason why many English words seemed hard for speakers of Spanish or Japanese to handle because of the phonological differences.

In addition to the mother tongue influence, there are several other features inherent in the word itself which might affect the ease or difficulty with which it is learned. The following are the possible factors that can affect word acquisition denoted by Laufer (1997): pronounceability (phonemes, combinations of phonemes, stress); orthography; length; morphology (inflexional and derivational complexity, deceptive morphological transparency); part of speech; abstractness and specificity/register restrictions; idiomaticity and multiplicity of meaning. As to the purpose of this study, I will only draw some attention to phonological features, orthographical features, morphological features, and add some discussions relate the influence of the mother tongue that affect second/foreign language word acquisition.

All foreign language learners might experience phonological difficulties related to phonemes, combination of phonemes and suprasegmental features. What makes some words phonologically more difficult than others is very much determined by the learner's L1 system (Laufer, 1997). Different languages utilize different distinctions in their phonological systems. At least one third of the world's languages utilize tone as a distinctive feature in separating words. Unfortunately, English does not. On the other hand, English utilizes distinctions between tense and lax vowels that are not used to distinguish words in other languages. So it is not surprising to find that speakers of different languages tend to use different strategies in word perceptions, as has been noted in a series of studies by Culter (1990) and Meara (1994).

Culter (1990) found that English speakers use a strategy of focusing on strong syllables in word recognition. Culter suggested that this strategy of focusing on strong syllables is not found in French, where there is no phonological motivation for it. French speakers pay equal attention to all syllables. In other words, they pay equal attention to stressed and unstressed syllables. Since Spanish phonology is similar to French in their treatment of syllables, it makes the following finding of Meara (1984) :

> We have also carried out studies on Spanish speakers, and these suggested that there may be some unexpected and interesting differences between the way native speakers of English and Spanish handle words. At the moment we are working on the idea that syllables play much more important role in the representation of words for Spanish speakers than is the case for English. (pp234-235)

Familiarity with phonological features was shown to affect accuracy in perceiving, saying and remembering the word. Rodgers' study (1969) with English-speaking learners of Russian showed that foreign words which were difficult to pronounce were not learned as well as the more pronounceable ones. Gibson and Levin (1975) report a series of experiments on nonsense words – some pronounceable, some unpronounceable for particular language speakers. The result showed that the pronounceable words were perceived more accurately than the unpronounceable ones.

Correct spelling is also essential to the learning of a word. The degree of sound-script (or phoneme-grapheme) correspondence in a language system could be a facilitating – or difficult- inducing factor of word acquisition. Words with sound-script incongruent characteristics tend to cause some learning problems in pronunciation,

spelling, and writing. Koda (1996) has pointed out that processing strategies used in reading logographic scripts and phonological scripts are qualitatively different and the difference is significant in the study of L2 language vocabulary acquisition. Examples can be seen in native speakers of Semitic languages which place great importance on consonants and hardly represent vowels in script, tend to confuse words with similar consonants and different vowels (Ryan and Meara, 1991; Laufer, 1992b).

Different morphological features can also affect word learnability. Features such as irregularity of plural, gender of inanimate nouns, and noun cases make an item more difficult to learn than an item with no such complexity, since the learning load caused by the multiplicity of forms is greater (Laufer, 1997).

According to theories of second language acquisition, learners of a second language tend to transfer their first language behavior into their second language learning behavior. This has been observed even when the L1 and L2 are typologically unrelated (Koda, 1996). A case in point involves learners of Chinese with an alphabetic L1 background. They often rely on the phoneme-grapheme correspondence between spoken and written language when acquiring written vocabulary (graphic comprehension and production vocabulary). Evidence for such reliance can be found in research studies that have investigated the learning of Chinese characters in both CFL and JFL (Japanese as a foreign language) settings (Koda, 1996).

Everson (1998) suspected that if a different script-speech relationship was an important variable in developing reading proficiency for CFL learners, they would still be more comfortable reading a Romanized alphabetic script than they would reading

characters after one year of studying Chinese. He conducted a study on speed and comprehension in reading Chinese in Romanization and characters. Sixty 1ˢᵗ year 2ⁿᵈ semester students who had learned 200 Chinese characters participated in his study. The analysis of variance showed that the Romanization group read significantly faster and with significantly better understanding than the character group. Everson (1998) concluded that the 1ˢᵗ year students "are still dependent upon the alphabetic system they have brought with them from their native language. This reliance may indicate that they are still in the very early stages of the perceptual development…" (p10). As for when this reliance may decline, Everson quoted Light's (1976) study, which hypothesized that by the time students have reached intermediate level, they will be more comfortable reading in characters than in Romanization.

Chikamatsu (1996) conducted a study that compared the effects of L1 orthographic background on Japanese Kanji recognition. The participants were forty-five American and seventeen Chinese students studying Japanese at an American university. The results indicated that (a) the Chinese subjects relied more on visual information in processing L2 Japanese kana words than did the English subjects and (b) the English subjects utilized the phonological information in processing Japanese kana words more than the Chinese subjects. The results are significant because they strongly suggest that L2 learning is affected by L1 vocabulary processing strategies.

Studies have also been conducted to examine the effect of a logographic reading background on ESL word recognition. Gairns (1992, cited in Koda, 1996) investigated cognitive processing in ESL reading. He compared the lexical decision results of

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Chinese L1 participants and Arabic L1 participants and found that both groups did better when orthographic rather than phonological information was available. However, a noticeable decline was observed for the Chinese group when orthographic cues were unavailable. This study presents evidence that learners with alphabetic script backgrounds tend to utilize phonological information when it comes to word recognition just as learners with a logographic script background tend to rely more on visual information from print.

Learning Strategies in Second/Foreign Language Acquisition

In the area of language learning in general, it is not unusual to observe that some learners seem to be more successful than others and that the so called 'good' learners sometimes do different things than 'poorer' learners. As to the part of language teachers, one of their primary teaching goals is to help both the so called 'good' learners and 'bad' learners learn the language as thoroughly and efficiently as possible with the ultimate expectation of having students become effective, independent and autonomous language learners and users (Wenden & Rubin, 1987). The term commonly used in the learning literature to refer to what learners do that underlie the different outcomes of language learning is *learning strategies*. Naiman et al (1975) and Rubin (1975) indicated that good language learners consistently used certain types of learning strategies, such as guessing from context.

Research into the area of language learning strategies began in earnest in the 1970s as part of the movement away from a predominantly teaching-oriented perspective, to one which included interest in how the actions of learners might affect their acquisition

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of language (Schmitt, 1997).   In the language learning field, virtually all definitions of strategies imply conscious movement toward a language goal (Bialystok, 1990; Oxford, 1990, 1996a). In the other words, learning strategies have been defined as specific actions, behaviors, steps, techniques, or thought processes—such as seeking conversation partners, or giving oneself encouragement to tackle a difficult language task---that students use to enhance their own language learning, the strategies are intentionally used and consciously controlled by the learner (Oxford & Nyikos, 1989).

According to Oxford (1990), one way of helping second/foreign-language learners is to make them aware of the various identified language-learning strategies, and to integrate training in appropriate language-learning strategies into the language curriculum. Oxford (1990) believes that language learning strategies are the specific behaviors or thoughts learners use to enhance their language learning and are among the main factors that help determine how---and how well---students learn a second or foreign language.

Cohen (1998) defines language learning strategies as:

…those processes which are consciously selected by learners and which may result in action taken to enhance the learning or use of a second or foreign language, through the storage, retention, recall, and application of information about that language. (p.4)

From the above statement, we can see Cohen's insist that strategies need to be conscious, since the consciousness is the characteristic that distinguishes strategies from other processes (Cohen, 1998). Cohen went on to say that such strategies:

include strategies for identifying the material that needs to be learned,

distinguishing it from other material if need be, grouping it for easier learning

(e.g., grouping vocabulary by category into nouns, verbs, adjectives, adverbs, and

so forth), having repeated contact with the material (e.g., through classroom tasks

or the completion of homework assignments), and formally committing the

material to memory when it does not seem to be acquired naturally (whether

through rote memory techniques such as repetition, the use of mnemonics, or

some other memory technique). (p.5)

Tudor (1996) described language-learning strategies as the purposeful actions

learners engage in, either consciously or unconsciously, with the goal of enhancing skills

in speaking, listening, reading, and writing of a second or foreign language. Scarcella

and Oxford (1992) emphasized that when the learner consciously chooses strategies that

fit his or her learning style and the L2 task at hand, these strategies become a useful tool-

kit for active, conscious, and purposeful self-regulation of learning. Oxford (1990) also

stated that strategies have their neutral nature; they are neither good nor bad until they are

thoroughly considered within the context of their use. Nation (1990) explained that a

strategy is useful if the following conditions are present: (a) the strategy relates well to

the L2 task at hand; (b) the strategy fits the particular student's learning style preferences

to one degree or another; and (c) the student employs the strategy effectively and links it

with other relevant strategies (p.8).   Nation insisted that only those strategies that fulfill

these conditions can make learning easier, faster, more enjoyable, more self-directed,

more effective, and more transferable to new situations. Allwright (1990) and Little

(1991) both commented that appropriate learning strategies can enable students to become more independent, autonomous, lifelong learners. Rigney (1978) and O'Malley et al. (1983) also denoted that language learning strategies involved any kind of operations, steps, routines used by the learners to facilitate the obtaining, retention, retrieval, and use of information to learn language skills. In other words, language learning strategies are "what learners do to learn and to regulate their learning".

Rubin (1975) focused her study on the strategies of self –described successful language learners and the learners' characteristics. She made an assumption that once the strategies that the so-called good language learners employed were identified, they could be made available more effectively to less-successful learners. Rubin (1975) indicated that a good language learner is willing to take risks and to tolerate ambiguity and vagueness. She further concluded there are three groups of strategies that are commonly used by effective language learners: communication strategies, social strategies, and cognitive strategies. For Rubin, communication strategies consist of the cues of circumlocution and gesture. Social strategies include the action of seeking out opportunities to use the target language with peers or friends. Cognitive strategies involve guessing, inferencing, practicing, analyzing, categorizing, synthesizing, and monitoring.

In 1981, Rubin completed another study and classified language learning strategies into two major categories: direct strategies and indirect strategies (Rubin, 1981). According to Rubin's classification, direct strategies contribute directly to language learning and include actions such as clarification, verification, monitoring,

memorization, and guessing, inducing, inferencing, deducing, and practicing. Indirect

strategies contribute indirectly to learning, and include actions such as creating

opportunities to practice, planning, and evaluating one's own learning.

Oxford (1990) described the various available learning strategies and some other

behaviors exhibited by learners attempting to improve their foreign-language abilities.

Her descriptions were similar but more detailed than Rubin's classification. Oxford

(1990) also categorized language learning strategies into direct and indirect strategies.

Direct strategies are subdivided into three smaller groups: *memory strategies* help

learners link one L2 item or concept with another, it related new material to existing

knowledge but do not necessarily involve deep understanding; *cognitive strategies* are

significantly related to L2 proficiency, these strategies enable the learner to directly

manipulate and transform the target language being learned; and *Compensation strategies*

help the learner make up for inadequate knowledge of the target language. Comparing

with direct strategies, indirect strategies, on the other hand, do not necessarily involve

using the language being learned directly, their functions were to support and assist the

learning of that language. According to Oxford's classification, indirect strategies consist

of metacognitive, affective, and social strategies. *Metacognitive strategies* involve the

overall review of one's own learning process and help the learner making decisions about

planning, monitoring, or evaluating the best way to learn; *affective strategies* help

managing or handling the emotional ups and downs (for example, one's mood and

anxiety level and feelings) that inevitably accompany learning the new language; *social

strategies* use interaction with other people to improve language learning as well as

understand the target culture (Oxford, 1990). Oxford and Crookall (1989) concluded that the direct and indirect strategies are equally important for learning foreign languages. They noticed that all foreign language learners use some of the above described strategies in attempting to learn a new language. Furthermore, they concluded that the more learners use of the strategies, the better their language performance is likely to be.

O'Malley and Chamot (1990) on the other hand, also divide learning strategies into three main categories: cognitive strategies, metacognitive strategies, and social/affective strategies. According to their definition, *cognitive strategies* operate directly on incoming information, manipulating it in ways that enhance learning. Strategies like rehearsal, organization, inferencing, summarizing, deduction, imagery, transfer, and elaboration can all be included into this category. *Metacognitive strategies* are strategies demanding higher skills that may entail planning, arranging and evaluating one's own learning. *Social/affective strategies* are those that involve learning with others and the managing or handling the emotional ups and downs that inevitably accompany learning the new language (O'Malley & Chamot, 1990).

In addition to studying the positive facets of language-learning strategies, one important concept we should keep in mind is although "good" learning strategies are interesting and important, they cannot be universally successful. In other words, the same strategy could be wonderful for some and terrible for others. In addition to Oxford's three conditions we mentioned previously as essential to have learning-strategies become successful: (a) the strategy relates well to the L2 task at hand; (b) the strategy fits the particular student's learning style preferences to one degree or another;

and (c) the student employs the strategy effectively and links it with other relevant strategies; some other existing "variables" also draw researchers attention.

Oxford and Nyikos (1989) concerned the relationship between the potentially-affected variables and students' choices of learning strategies. In the study, they investigated the language-learning strategies employed by university students in learning foreign languages and explored several variables that may affect students' learning strategy choices. Amongst the variables are the various aspects of personality, language being learned, gender, motivation, and degree of metacognitive awareness. They concluded in the study that among all variables, motivation was the most powerful influence on the choice of language learning strategies. They discovered that highly motivated students used a wider variety of learning strategies, and that they used them more often than less-motivated students. Furthermore, the higher a student's self-perceived proficiency, the more frequently he or she used learning strategies (Oxford & Nyikos, 1990).

In addition to the variables mentioned above, Politzer and McGroarty (1985) found that ethnicity has a strong influence on the types of learning strategies used by second/foreign language learners. In their study, they found that Asian students employed different language learning strategies from Hispanic students' learning strategies. According to the study, Asian students tend to use more rote memorization and rule-oriented strategies than Hispanic students.

From a different cultural perspective, Park (1997) explored the use of language learning strategies and the resulting language proficiency of Korean university students

learning English as their foreign language. Park's study demonstrated evidence that the

more students used language learning strategies, the higher their TOEFL (Test of English

as a Foreign Language) scores. In the study he found out that among the six categories of

learning strategies, cognitive and social strategies were better predictors of the students'

TOEFL scores, and the students reported that they used metacognitive, compensation,

and memory strategies more often than cognitive, social, and affective strategies.

Summing up from the above research studies, language learning strategies hold

considerable promise for language pedagogy, because it is believed and proved that

"learning will be facilitated if students are explicitly trained to become more aware of and

proficient in the use of a broad range of strategies that can be utilized throughout the

language learning process" (Cohen, 1998, p.66). It is expected that a 'good strategy'

training can provide students with the necessary tools to:1) self-diagnose their strengths

and weaknesses in language learning; 2) become more aware of what helps them to learn

the language they are studying most efficiently; 3) develop a broad range of problem-

solving skills; 4) experiment with both familiar and unfamiliar learning strategies; 5)

decide how to approach a language task; 6) monitor and self-evaluate their performance;

and 7) transfer successful strategies to new learning contexts (Weaver & Cohen, 1998).

Vocabulary Learning Strategies in Second/Foreign Language Acquisition

Research on vocabulary acquisition is in fact the study of learning strategies. As

Ellis (1994) remarks, strategy "is particularly useful in vocabulary acquisition" (p.556)

and it is crucial to teach students strategies for learning vocabulary. According to Gu and

Johnson's definition (1996), the word *vocabulary* has long been defined as word lists,

and *vocabulary learning strategies* have been almost explained to having the same effects as merely techniques that help commit these lists to memory.

Concurrently, there was a growing awareness that aptitude was not the governing factor in language learning success, implying that language achievement depended quite heavily on the individual learner's endeavors. This naturally led to a greater interest in how individual learners approached and controlled their own learning and use of language (Schmitt, 1997). The majority of research on vocabulary learning strategies has therefore explored various methods of vocabulary presentation and their corresponding effectiveness in retention (Meara, 1980). However, most studied are memory strategies, with the presupposition that strategies good for vocabulary retention will also benefit language learning in general. In the process of identifying and categorizing language strategies, many studies dealt indirectly with strategies specifically applicable to vocabulary learning. In fact, as O'Malley et al. (1990) also argued that training research on learning strategies with second languages has been limited almost exclusively to cognitive applications with vocabulary tasks.

Schmitt (1997), however, argues that despite the intensive interest in investigating strategies such as guessing meaning from context (Huckin, Haynes, and Coady, 1993) and certain mnemonics like the Keyword Method (Pressley, Levin, and Miller, 1982; Presley *et al*., 1982a) few individual vocabulary strategies have been researched in any depth. Nevertheless, we can still derive a number of tentative general conclusions about vocabulary learning strategies when we combine the results from general learning strategy research with those from more vocabulary-specific studies.

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Some earlier research focused on rehearsal strategies and addressed questions such as the number of repetitions needed to learn a list (Crothers & Suppes, 1967; Lado, Baldwin, & Lobo, 1967), the optimum number of words to be learned at one time (Crothers & Suppes, 1967), or the timing of repetitions (Anderson & Jordan, 1928; Seibert, 1927). Overall, rote repetition appears less efficient than using spaced recall and structured reviews (Atkinson, 1972; Royer, 1973; Seibert, 1927); silent repetition and silent writing are less effective than repeating the words aloud (Gershman, 1970; Seibert, 1927).

Chamot (1987) found that high school ESL learners reported more strategy use for vocabulary learning than for any other language learning activity, including listening comprehension, oral presentation, and social communication. On the other hand, the higher strategy use may be a result of learner's awareness of the importance of vocabulary. Horwitz (1988) found that a substantial number of the ESL students completing her questionnaire either agreed or strongly agreed that the most important part of learning a foreign language are learning vocabulary. As to the concern of what strategies are most commonly used, Cohen and Aphek (1981), in their longitudinal experiment, found that most students simply tried to memorize the words which they did not know. Ahmed (1989) described different types of learners and found that most took notes on vocabulary, or wrote notes in the margins of their books. O'Malley *et al*,.(1997) found that repetition was the most commonly mentioned strategy, other strategies such as imagery, inferencing, and keyword method were much less frequent.

Some researchers concerned about the importance of active management of strategy use. Ahmed (1989) used a cluster analysis technique to isolate five kinds of learners typified by the kind of strategies they used and found that the subjects in the so-called 'good learner' groups used a variety of strategies and were more conscious about their learning. Contrarily, the 'poor learner' subjects used few or none strategies and showed little concern about learning new words as well as the overall learning. Sanaoui (1995) replicated the study and found two distinct approaches to vocabulary learning: subjects either structured their vocabulary learning, engaged in a variety of learning activities, and reviewed and practiced their target words, or they did not.

Politzer and McGroarty (1985) warned that strategies should not be considered inherently good when considering which vocabulary learning strategies to recommend to students. There are so many variables that can influence the effectiveness whether certain learning strategies can be taught and used appropriately. Variables such as 'proficiency level, task, text, language modality, background knowledge, context of learning, target language, and learner characteristics' are all crucial to the vocabulary learning outcomes (Chamot and Rubin, 1994: 772). O'Malley and Chamot (1994) emphasized the importance of cultural effect on vocabulary learning. They found that Hispanics who had strategy training improved their vocabulary scores compared to the Hispanic control group, but Asians in a strategy training groups (who resisted training) performed worse than the Asian control group who used their familiar rote repetition strategy. Schmitt's (1996) study also showed that learners from different culture groups sometimes have quite different opinions about the usefulness of various vocabulary

learning strategies. In addition, learners' language proficiency may also play a great role

in determining a vocabulary strategy selection and effectiveness (Cohen and Aphek,

1980). Cohen and Aphek (1980) also found that word lists proved better for beginning

level students, while more advanced students benefited more from contextualized words

and they were also better in using associations in recall tasks.

　　　　Taxonomy of vocabulary learning strategies. In the area of vocabulary learning

strategies, it is strikingly true that the lack of any comprehensive list or taxonomy of

strategies has contributed to the reason why vocabulary learning strategies have not been

discussed much as a class. Skehan (1989) states that the area of learner strategies is still

in an embryonic state. Although he was referring to the learning field in general, but the

statement is especially true for the area of vocabulary learning strategies due to the

scarcity of more comprehensive list or taxonomy of strategies in this particular area. In

order to address this gap, a number of researchers attempt to develop taxonomy of

vocabulary learning strategies during this past decade. In the beginning, researchers tried

to identify the strategies that most so called 'good learners' used and consequently

attempted to categorize those identified strategies. O'Malley and Chamot (1990) for

example, divided language learning strategies into three major types: metacognitive,

cognitive, and social/affective. Oxford in the other hand identified second language

learning strategies into six major groups: cognitive strategies, metacognitive strategies,

memory-related strategies, compensatory strategies, affective strategies, and social

strategies (Oxford, 1990). According to Oxford's (1990) definition, *cognitive strategies*

require learners' direct manipulation of the language material for the purpose of acquiring

or retaining that information; *metacognitive strategies* are employed for over viewing, planning and managing the learning process; *memory strategies* are those strategies that help learners link new material to existing knowledge, but do not involve deep understanding; *compensatory strategies* are usually helpful for making up missing knowledge in communication, e.g., guessing from context in listening and reading, using synonyms and "talking around" the missing word to aid speaking and writing; *affective strategies* serve to regulate one's emotions, motivations, and attitudes, for example, strategies for reducing anxiety and for self-encouragement; *social strategies* include the actions which learners take to improve language learning by interacting with other learners and/or with native speakers.

Nation's taxonomy tries to separate aspects of vocabulary learning strategies into three major classes: planning vocabulary learning, finding information about words, and establishing vocabulary knowledge (Nation, 2001). The strategies in the first class involve deciding on where to focus attention, how to focus the attention, and how often to give attention to the items. In the other words, learners should know what their vocabulary goals are and should choose what vocabulary to focus on in terms of these goals, the main concern will be knowing the meaning of the chosen words by using the most appropriate strategy from a range of known options and deciding how to pursue the strategy and when to switch to another strategy. An example given is consulting a dictionary followed by the use of word cards to establish knowledge of the word with simultaneous increasing of spaced retrieval (Nation, 2001).

The second major set of strategies involves finding information about words. When cope with new words, learners have to be able to get information about the words. This information can come from the word form itself, from the context in which the word occurs, from a reference source or from drawing on analogies and connections with other language (Nation, 2001). The third set of Nation's strategies involves ways of remembering vocabulary and making it available for use. Nation (2001) referred three categories which he thinks are most effective to the learning of vocabulary. The categories are: *noticing, retrieving,* and *generating.*

According to Nation's (2001) definition, *noticing* involves seeing the word as an item to be learned. Strategies at this level include: putting the word in a vocabulary notebook or list, putting the word on to a word card, orally repeating the word and visually repeating the word. These strategies seemed very simple, but they are the fundamentals toward deeper processing of words. *Retrieving* involves recall of previously met items. Nation (2001) mentioned many kinds of retrieving: receptive/productive, oral/visual, overt/covert, in context/decontextualized. It is important that learners realize that there is a substantial difference between noticing a word and retrieving a word and that retrieval strategies are superior to noticing strategies. Like retrieving, the *generating* strategies include many kinds of generation: receptive/productive, oral/visual, overt/covert, in context/decontextualized. Generation strategies can encompass attaching new aspects of knowledge to what is known through instantiation (visualizing examples of the word), word analysis, semantic mapping, and using scales and grids (Nation, 2001).

Based on Rubin's definition of learning strategies as "operations, steps, plans employed by the learner to aid the acquisition, storage, retrieval and use of information" (1987, p. 29) and the lack of comprehensive classification systems, Schmitt (1997) developed an extensive taxonomy organized around Oxford's social, memory, cognitive and metacognitive categories. Although Oxford's classification might be one of the most comprehensive classification systems to date, Schmitt found it inadequate in certain aspects (Schmitt, 1997). According to Schmitt's explanation, there is no category in Oxford's taxonomy which can adequately describe those strategies that are used when learners need to discover a new word's meaning without linking to other people's expertise. In addition, Oxford's taxonomy was also inadequate in places where some strategies could fit into two or more groups. For example, *interacting with native speakers* is a social strategy; however, it could also be a metacognitive strategy if it is a part of a language learning plan. Also, it is always difficult to distinguish whether some strategies should be classified as memory strategies or cognitive strategies (Schmitt, 1997).

Because of the inadequacies in Oxford's taxonomy and followed the suggestion of the distinction between vocabulary activities by Cook and Mayer (1983, cited in Schmitt, 1997) and Nation (1990), Schmitt (1997) further distinguishes strategies into two major categories: discovery strategies and consolidation strategies. Discovery strategies are those strategies learners use to gain the initial information about a new word when they encounter the word for the first time. Strategies involved in this category include determination strategies, such as guessing from an L1 cognate, guessing

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from context, using reference materials; and social strategies such as asking someone else who knows the meaning of the new word (Schmitt, 1997).

Once learners gained the initial knowledge about a word, it is worthwhile for them to use consolidation strategies to remember it. Strategies from the social, memory, cognitive or metacognitive all belong to the consolidation strategy group.

Schmitt's taxonomy. Since the questionnaire used in the present study was derived mainly from Schmitt's taxonomy of vocabulary learning strategies, therefore, I think it is worthwhile a more detailed examination of his taxonomy. The strategies listed in the following tables 1 and 2 are derived from Schmitt's taxonomy of vocabulary learning strategies (Schmitt, 1997, pp. 207-208).

Discovery strategies. Encompassed in this category are those strategies for gaining initial information about a new word such as determination strategies and social strategies. Table 1 presents nine (9) determination strategies and five (5) social strategies for the discovery of a new word's meaning; all of these strategies are labeled under the Discovery Strategy category.

Table 1.

Discovery Strategies

Determination Strategies	Social Strategies
Analyze part of speech	Ask teacher for an L1 translation
Analyze affixes and roots	Ask teacher for paraphrase or synonym of a
Check for L1 cognates	new word
Analyze any available pictures or gestures	Ask teacher for a sentence including the new

Guess from textual context	words
Bilingual dictionary	Ask classmates for meaning
Monolingual dictionary	Discover new meaning through group work
Word lists	activity
Flash cards	

Source: Schmitt (1997)

According to Schmitt (1997), determination strategies can facilitate learners gather meaning of a new word by: analyzing the new word's part of speech; obtaining hints of meaning from its root or affixes; checking for L1 cognates if the L2 is closely related to the learner's L1; analyzing gestures or intonation in spoken discourse; guessing from context when the learner has adequate level of proficiency in the target language; finding a word's meaning through bilingual dictionaries or monolingual dictionaries; and using word lists and flash cards for initial exposures to a new word.

Schmitt (1997) suggests 'asking someone who knows' as the second way of discovering the meaning of a new word. Teachers are often supposed to be in the first position to be asked to give the help: they are significant helpers and can benefit students' learning in various ways: they can give the L1 translation if they know the language, they can give synonym, a definition by paraphrase, use the new word in a sentence or any combination of these. Of course classmates or friends can be asked for meaning in all of the above mentioned ways, too.

Consolidation strategies. Once learners have gained the meaning of a new word, they may use consolidation strategies to remember the word. Table 2 demonstrates

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Consolidation Strategies which come from the social, memory, cognitive and

metacognitive strategy groups.

Table 2.

Consolidation Strategies

Social Strategies
Study and practice meaning in a group
Teacher checks students' flash cards or word lists for accuracy
Interact with native-speakers
Memory Strategies
Study word with a pictorial representation of its meaning
Image word's meaning
Connect word to a personal experience
Associate the word with its coordinates
Connect the word to its synonyms and antonyms
Use semantic maps
Use 'scales' for gradable adjectives
Peg Method
Loci Method
Group word together to study them
Use new word in sentences
Group words together within a storyline
Study the spelling of a word
Study the sound of a word
Say new word aloud when studying
Image word form
Underline initial letter of the word
Configuration
Use Keyword Method
Affixes and roots (remembering)

Part of speech (remembering)
Paraphrase the word's meaning
Use cognates in study
Learn the word of an idiom together
Use physical action when learning a word
Use semantic feature grids
Cognitive Strategies
Verbal repetition
Written repetition
Word lists
Flash cards
Take notes in class
Use the vocabulary section in textbook
Listen to tape of word lists
Put English labels on physical objects
Keep a vocabulary notebook
Metacognitive Strategies
Use language media (songs, movies, newscasts, etc.)
Testing oneself with word tests
Use spaced word practice
Skip or pass new word
Continue to study word over time

Source: Schmitt (1997)

Nation (1997) believes that besides the initial discovery of a word, group work can be useful to learn or practice vocabulary. Dansereau (1988) also agrees that group cooperative learning can prepare participants for outside the classroom team activities which give students more time to use and manipulate language in class. It is believed that interacting with native speakers would be an excellent way to improve one's

vocabulary. Milton and Meara (1995) found that a group of non-native European exchange students in a British university gained 1,325 words in average per six month, which is about 5 times more than the average word gain rate previously in their home countries.

Traditionally, most memory strategies (also known as mnemonics) involve using some form of imagery or grouping with previously learned knowledge they help learners learn faster and retrieve better via various ways (Schmitt, 1997). For example, learners can learn and retrieve information via sounds (e.g., rhyming), images (e.g., a mental picture of the word's form or the meaning of the word), a combination of sounds and images (e.g., the keyword method), body movement (e.g., physical action), or location (e.g., Loci Method) (Oxford, 1990) (Schmitt, 1997). Another imagery example is the association of new words with a particularly vivid personal experience. In a study of word association from EFL Japanese students, Sokmen (1995) found that the majority of word associations were those that can reflect strong memories, attitudes, and feeling. Likewise, new words can also be linked to other L2 words which the student already knows, this kind of relationship are often illustrated with semantic maps (Schmitt, 1997).

Grouping is also an important learning strategy in second language vocabulary acquisition. The sense of grouping can be used in various ways to aid vocabulary acquisition. It is proved that words belonging to each meaning category are easier to be recalled together, for instance, all animals, colors, body parts, etc. Thompson (1987) found that words can be better recalled if they were organized in some way before

memorization even though they were presented in random orders. Examples for this theory are grouping words together by using the target word in sentences or in a story.

Another mnemonic strategy which is also commonly used by second/foreign language learners to facilitate word recall is the focusing of the target word's orthographical (writing or spelling) and phonological (sound) form. It is believed that one can improve word recall by explicitly study the spelling or pronunciation of a word (Schmitt, 1997). Other options involve the visualization of the orthographical form of a word, mental representation of the sound of a word, saying the word aloud, and make use of rhyming (Sokmen, 1997).   Amongst the vast number of mnemonic strategies, a method which combines the phonological forms and meanings of L1 and L2 words is perhaps the most researched one. A well known example is the Keyword Method which entails a learner finding a L1 word that sounds like the target L2 word. A number of studies have found that the Keyword Method is highly effective in enhancing the recall of words (Atkinson and Raugh, 1975, cited in Schmitt, 1997).

Analysis of word's affixes, root, and word class has its potential usefulness as a way of consolidating its meaning, too.   Nation (2001) said that "A knowledge of affixes and roots has two values for a learner of English: it can be used to help the learning of unfamiliar words by relating these words to know words or to know prefixes and suffixes, and it can be used as a way of checking whether an unfamiliar word has been successfully guessed from context." (p. 264). The strategy of using word's affixes and roots is especially meaningful to learners of Chinese, since the majority of Chinese

characters are combinations of radicals which can present the phonological form or morphological form of a character.

Paraphrasing is a strategy which requires learners read sentences first and then re-express the meaning of the sentences by using a target word which is provided for them. Nation (2001) found paraphrasing a very useful strategy when teaching the meanings of new words especially when productive vocabulary is insufficient. Vocabulary can also be learned as parts or chunks such as phrases, proverbs, and idioms. N. Ellis (2001) sees the learning of collocation as one level of chunking. Chunking can occur in two directions: memorized chunks can be later analyzed, or smaller chunks can be grouped into larger chunks. Nation (2001) denotes that one way of increasing one's vocabulary is to analyze and learn the individual words of chunks, and then use the whole chunk as a mnemonic device for remembering the individual word meanings. According to Nation's (2001) explanation, chunking is an efficient vocabulary learning strategy since it shortens processing time. That is, instead of having to learn each component the chunk is learned as a unit. For learners who want to gain a degree of fluency in a limited time and in limited areas, chunking is an important learning strategy (Nation, 2001).

Schmitt (1997) suggests the use of physical action for beginners to facilitate vocabulary recall. Asher (1969) has demonstrated the effectiveness of using Total Physical Response (TPR). In her study, the experimental group which received TPR instruction demonstrated better vocabulary comprehension than the control group immediately after training. It showed that the comprehension didn't alter even after months.

Recent developments in lexical semantics suggest us a lot about vocabulary learning. The use of semantic grid seems to have a main strength in the illustration of the meaning or collocational differences between sets of similar words (Channell, 1981, 1988; Crow, 1986; Crow & Quigley, 1985; McCarthy, 1990).

Cognitive strategies require learners' direct manipulation of the language material for the purpose of acquiring or retaining that information. Cognitive strategies in Schmitt's taxonomy are similar to memory strategies; both of them involve some form of manipulation to enhance recall of words, within this category, Schmitt includes those strategies that involve repetition and using mechanical means to study vocabulary (Schmitt, 1997). For instance, repeatedly writing and saying a word over and over again are widely used strategies in many parts of the world (O'Malley and Chamot, 1990). Although its utility has been questioned by the Depth of Processing Hypothesis (Craik and Lockhart, 1972), it must be admitted that repetition strategies still play an important role in language learning, many learners have used these strategies to reach high levels of proficiency (Schmitt, 1997). Research also found that repetition of foreign language in short-term memory promotes long-term retention (Papagno, Valentine, and Baddeley, 1991).

Although word lists and flash card are commonly used in the initial exposure of a word, most students continue to use them to review it afterwards. Advantages are because flash cards can be carried almost anywhere and the word lists can be created as logical groupings of the target words which will be easier to be retained (Cohen, 1990). Taking notes in class is also a widely used strategy it invites learners to create their own

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personal structure for newly learned word and also provides the chance for additional exposure. Schmitt (1997) suggests a type of vocabulary notebook which incorporates the progressive learning of different kinds of word knowledge for each word, and also the use of expanding rehearsal. Other study aids like making and using word list tape, studying the vocabulary sections in textbooks, and create a vocabulary notebook are also highly recommended strategies.

Metacognitive strategies are generally broad strategies concerned with more efficient learning, they are used by students to control and evaluate their overall learning (Oxford, 1990). To efficiently acquire an L2, it is important to maximize exposure to the target language. Krashen (1985) proposed that second languages are acquired "by understanding messages or by receiving 'comprehensible input' (p.2). From Krashen's point of view, the 'comprehensible input' should be in sufficient quantities. A learner can maximize his/her target language exposure by using target language-medium books, magazines, newspapers, movies and TV. Interacting with native speakers whenever possible also increases input, and is considered a metacognitive strategy if it is part of the learning plan (Schmitt, 1997). Testing oneself also provides considerable amount of input. It has been shown to efficiently improve long-term recalls (Thompson, 1987).

It has been shown that most forgetting occurs soon after the end of a learning session. The success in learning depends highly on how the new material is practiced over certain time periods (Stevick, 1996). The 'Principle of expanding rehearsal' suggests that learners should review new material soon after the initial meeting, and then at gradually increasing intervals, for example, one explicit review five to ten minutes

after the end of the study period; then 24 hours later; then one week later, one month later, and finally six months later (Pimsleur, 1976; Baddeley 1990).

It is practical for L2 learners to selectively skip or pass words when they were sure they may not meet the words again for a very long time or the words are very low frequency ones. Continue to study words over time is also an important strategy in vocabulary acquisition. Studies regarding time of exposure needed to learn a word have results ranged from five to 16 or more (Nation, 2001).

As we come to this point, it is important to address that most vocabulary learning strategies can be applied to a wide range of vocabulary and are useful at all stages of vocabulary learning. Strategies are important because they allow learners to take control of learning by themselves even they are away from the teacher. Since each learner differs greatly, it is very important to make training in strategy use a part of carefully planned vocabulary development programme. According to Nation (2001, p222) this planning should involve:

1. deciding which strategies to give attention to

2. deciding how much time to spend on training the learners in strategy use

3. working out a syllabus for each strategy that covers the required independent practice

4. monitoring and providing feedback on learners' control of the strategies

Studies of strategy use can observe learners in several ways. Normally speaking, there are four ways of data gathering:

1. Studies can gather information about what learners say they usually do through written questionnaires or oral interview. It is easy to administer written questionnaires to large groups of people but the data gathered may not be a true reflection of what actually happens when a learner tackles a word.

2. Studies can gather information about what learners are able to do. This information is usually gathered by getting learners to perform learning tasks and observing them closely while they do the task. The defects of this collecting tool are several, for example, the learners are aware that they are being observed and may perform very differently from what they normally do; the process is also time consuming.

3. Studies can gather information about what learners say they did. This is a recall task, students are asked to describe what they did and what they were thinking about. Again, it is time consuming to gather such data and the data gathered is retrospective, it might not be a true reflection of what actually happened.

4. Studies can gather information about what learners actually do. The information is gathered under such circumstances that the learners are unaware of being observed. What is difficult with such data gathering is that the data collected might be very superficial it cannot dig deep enough to discover what learners really do.

To sum, when conducting studies about what strategies learners usually apply when they tackle with vocabulary learning, we need to be cautious about the pros and cons

of those data gathering methods and choose a best method so that the outcome of the study could be more reliable and practical.

Chinese Vocabulary Acquisition

It is no doubt that one of the biggest challenges that Chinese language learners encounter is the learning of Chinese characters. Generally speaking, learning Chinese characters involve three main aspects: pronunciation, shape, and meaning (Yin, 2003). For most Chinese language learners, the mastery of Chinese characters could probably be the most difficult task they have ever faced in learning a foreign language (Everson, 1998). On the other hand, studies have found that vocabulary is the main difficulty of all Chinese foreign language learners at different levels; it is actually the main problem in all the learning processes of Chinese speaking, listening, reading and writing (Gao, Li & Guo, 1993). Learning Chinese characters in a systematic manner over the long term is a labor-intensive endeavor which places huge demands on learners' memories, time and study capabilities. The difficulties that Chinese Foreign Language learners have in learning Chinese characters are determined by the nature of the Chinese language. The Chinese language has a large amount of vocabulary--forty thousand characters, as shown in a Chinese dictionary. Many Chinese characters carry interesting and sophisticated cultural implications. In terms of phonetics, the pronunciation of the Chinese word has nothing to do with the writing graphemes. Pinyin, the Romanization pronunciation system, was developed to help students to learn pronunciation but cannot replace Chinese characters, because many Chinese characters have the same pronunciation, but are entirely different in appearance and meaning. Pinyin is only a way to transcribe Chinese

characters so learners can pronounce the characters. In terms of the Chinese writing

system, which is unique and complicated, different strokes construct different characters,

and the difference of only one little stroke can make two completely different words. All

these factors make learning Chinese characters the biggest challenge to the Chinese

learners. Moreover, in Chinese, some of the characters carry complex but interesting

cultural implications. Due to the great difference between Chinese culture and western

cultures, some Chinese cultural information concerning beliefs, arts, and morals might be

too abstract for the learners to understand which consequently adds more difficulties for

the learners.

Chinese employs what we have mentioned in previous sections as a logographic

orthography where grapheme-to-phoneme conversion rules do not apply as they do in the

reading of alphabets. In the last decade there has been increasing interest in conducting

research on the acquisition of the Chinese orthographic system by second language

learners, the overall research field of teaching Chinese as a foreign language has gained

much more attention than any time in the history (Everson, 1993). Some researchers

have found that for native readers of Chinese, phonological representation of words in

short-term memory exists much the same as it exists for native readers of alphabet-based

languages (Chen & Tzeng, 1992; Chu & Loritz, 1977). McGinnis' (1995) study focused

on language learner's approaches and strategies that learners employ when learning new

Chinese characters. Although inquiry into how students go about learning Chinese

characters is still in its embryonic stage, initial survey research by McGinnis has

indicated that Chinese language learners employ rigorous memorization strategies in

order to remember the new characters. In addition, he reported that the learners primarily used cognitive strategies, such as using flashcard drills, reflecting new characters over and over again, and attempting to associate pronunciation and meaning with the characters' visual characteristics.

A number of studies have also investigated the perceptual and productive skills involved in the acquisition of Chinese characters as a L2 from students of different L1 background. For example, Hayes (1988) investigated whether native Chinese and American students of Chinese use different strategies for remembering Chinese characters. In his study, he conducted two different character recognition experiments, each based on the theory that the types of errors that subjects make reveal their processing strategies. It was found in Experiment 1 that when processing individual characters, the native readers made significantly more errors on the phonological task than did the nonnatives, indicating a phonetically oriented strategy for character processing by the native readers. On the other hand, the nonnatives were found to use a mixed strategy of phonological and graphic processing, suggesting that nonnatives experienced much uncertainty about how to remember characters. In Experiment 2, a character recognition test was disguised within a sentence validity test. It was found in this experiment that the nonnative made more graphic errors at the sentence level than did the natives, whereas the native readers' errors indicated that they were using a mix of graphic and semantic strategies. Hayes hypothesized that the nonnative were still attending to the graphic nature of the characters, whereas the natives were processing the sentences for meaning (Hayes, 1988).

Some researchers investigated the effects of character density on character recognition and production. However, results of those studies seemed to be not so homogeneously similar. For example, Hayes (1987) found in his study that among proficient, nonnative readers, correct recognition of characters was not affected by density of the character. Chin (1973) on the other hand; found that character density had effects on character recognition and production. The conflicting results of Hayes's (1987) and Chin's (1973) studies can be attributed to the Chinese proficiency levels of the subjects in each study. In Hayes's study, all the subjects had higher proficiency level in Chinese than Chin's subjects. It is quite reasonable to hypothesize that in the initial stage of Chinese character learning, students do not have an overall picture of the orthographic system due to the sheer numbers of radicals and phonetic components (DeFrancis, 1984, pp. 92-95); thus character density affects recognition. However, when learners reach higher proficiency stage like the subjects in Hayes's study, character density may have less or none effect on recognition.

Everson and Ke (1995) examined whether the density of a character would have an effect on the processing time by L2 learners and found out that the more proficient L2 learners named all the characters faster and more accurately, but that this speed and accuracy declined as character density increased.

Chapter Summary

For many beginning learners of Chinese language, learning Chinese characters is probably the most difficult task they have ever encountered. The literature reviewed in

this chapter helped us to understand not only the general language learning process, but also Chinese-language learning processes and their accompanying strategies.

A number of the studies reviewed provided a thorough understanding about both the definition and the importance of a number of second/foreign language-learning strategies. These studies suggested that successful language learners use more strategies to become more self-directed and more efficient at improving their language skills. On the other hand, less successful language learners sometimes do not even know what strategies they use, or they are aware of just a few noncommuicative and mundane strategies, such as translation, rote memorization, and repetition (Nyikos, 1987). Yet sometimes less effective learners are indeed aware of using a wide range of strategies, but they employ these strategies in a random, almost desperate manner (Vann & Abraham, 1989).

The work of Carton (1971) and Rubin (1975) of the seventies contributed to our understanding of language learning by identifying strategies both directly and indirectly contributing to language learning. To present more concrete evidence of how learners go about learning a new language in general, Oxford et al. (1989) provided information on various learning strategies.

Koda (1996) put a lot of effort into finding the relationship between learners' first and second-language learning processes in the area of "word recognition". There are four tentative conclusions can be drawn from the review of recent L2 word recognitions studies: (a) Word recognition efficiency plays a far more significant role in L2 reading comprehension than previously assumed; (b) amount of processing experience with an L2

writing system is directly related to performance efficiency; (c) L1-L2 orthographic distance not only influences overall performance differences among learners from related and unrelated L1 orthographic backgrounds, but also underscores the ways in which L1 orthographic knowledge facilitates L2 word recognition; (d) variations in L1 reading experience may induce a strong preference for particular processing procedures and, thus, engender qualitative differences in L2 processing behaviors (Koda, 1996).

In addition to teach students how to select and use appropriate vocabulary learning strategies that are essential to their learning, teachers should also pay much attention to the variables such as 'proficiency level, task, text, language modality, background knowledge, context of learning, target language, and learner characteristics' (which include learners ethnicity and cultural background and believes) are all crucial to the vocabulary learning outcomes. This awareness will enable language teachers to design their strategy-training based on an individual learner's need and an awareness of the types of strategies he or she is likely to instinctively favor.

The current study will focus on Chinese-character learning strategies employed by both students whose native language is Roman or Western alphabet-based and Eastern Asian students whose native language is either character-based or alphabet-based. The research hypothesis will be that students from different native language backgrounds will use different vocabulary learning strategies when they learn Chinese characters. Consequently, this study is intended to learn more about whether the similarities and differences in Chinese character learning strategies between the two groups form certain

pattern or style. In next chapter, chapter three, we will discuss the methodology used in

this study.

CHAPTER 3

RESEARCH METHODOLOGY

This study was designed to investigate whether high school students whose native language is alphabet-based and whose native language is character-based employ different vocabulary learning strategies when they learn Chinese characters. It also attempted to compare the strategies used by the two different groups of students and consequently determine whether the two groups' preferred learning strategies form any distinctive patterns.

It is with the hope that the results of this study will be beneficial to (1) schools and instructors in developing a better Chinese language program, and to (2) students who are learning or intending to learn Chinese have better insights about what strategies they could apply to acquire better achievement.

Participants and Research Site

The participants were 33 Upper School students from an American School in Taipei, Taiwan. At the time of the survey took place, all of the students were taking the Upper School Mandarin 2 class. According to the purpose of this study, the responses of all the students will be divided into two different groups based on the respondents' native language background: group one are students whose native language was Roman alphabet-based and group two are East Asian students whose native language was either character-based or alphabet-based.

The participating school is a private international school with a largely American-based curriculum located in T'ien-mu, Shih-lin District in Taipei city. Founded in 1949,

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the school served as a U.S. Department of Defense contract school during the U.S. military presence in Taiwan from the 1950s to 1970s. Upon the termination of diplomatic relations between the United States and the Republic of China (ROC) in 1979, the school was reorganized into a private international school. The school is operated by the non-profit American School Foundation under contract to the American Institute, the United States' quasi-embassy, in Taiwan. As required by ROC law, the school is only open to students who hold foreign (i.e. non-ROC) passports. Most graduates of the school go on to attend schools in North America, though some choose to attend schools in other countries. The current student body is primarily made up of children of expatriate business people and other foreigners, as well as Taiwanese students holding foreign passport.

Mandarin Program at the Participating School

Based on the belief that learning a language is a gradual process of learning about how others act and express themselves authentically as members of their unique societies. The school offers a two-tracked, multi-level Mandarin program which is communicative-oriented and proficiency-based. The Mandarin track is designed for second language learners, whereas the Mandarin Writing & Reading track is designed for students who have already acquired strong speaking and listening skills. Listening, speaking, reading and writing skills are integrated within all courses. Within each track, students are further grouped according to language proficiency level.

In the Upper School (9-12 grades), the Mandarin language, including grammar and vocabulary, is taught in context and the target language used whenever possible. In

each level, the skills of listening, speaking, reading, and writing are developed. Authentic materials and situations are used as often as possible. Advancement to the next level is dependent upon successful completion of all coursework, including final exams. Students achieving grades of A, B, and C may advance. Students who receive a grade of D may need to repeat the course to ensure that proficiency is reached.

One of the Mandarin program teachers expressed her wiliness in participating this study, she assigned one of her classes, the Upper School Mandarin 2 (USM 2) to do the questionnaire for this study. The USM 2 is a one year course with one credit, students assigned in the class have to take a placement test, and all of them had have previous Mandarin background, however, not necessarily taken from the school. In this course, previously learned vocabulary and structures are reinforced as students continue to work on developing their reading and writing skills. Students will continue to read a variety of texts and will be introduced to the organization of newspapers. They will also be introduced to the use of Chinese dictionaries. They will continue to develop their ability to express ideas with clarity by using an expanded range of vocabulary and structures to produce longer narratives and compositions. Oral expression will continue to be reinforced through regular class presentations and discussions. Authentic materials and cultural information are interwoven throughout the course to provide a framework for proficiency in the language and an appreciation of the countries where Mandarin is spoken. The main text used in the class is *Communicating in Chinese*.

The Instructor

The participating instructor from the school is a very experienced Mandarin

Program teacher from the foreign language department at the school. Over the years she

has been teaching Mandarin to wide range of students from kindergarten to high school.

She expressed high interest to this research when I first introduced the ideas about it and

she instantly promised for the participation. She considered involving in this project to

be a very good experience to not only to her students and herself but also to the Mandarin

program at the school.

The Questionnaire

In order to collect information about the Chinese-character learning strategies

used by students of different native language backgrounds, a three-section questionnaire

was developed. The first section, section A, contained fifty five vocabulary learning

strategies that were derived mainly from the Strategy Inventory for Language Learning

(SILL) (Oxford, 1990) and Schmitt's taxonomy (1997). For the purpose of our study,

and to better interpret the results, those fifty five questions will be grouped into five

major strategy learning categories in our analysis chapter (chapter 4): the memory

strategy (MEM), the cognitive strategy (COG), the determination strategy (DET), the

social strategy (SOC),), and the metacognitive strategy (MET). In this section, students

were asked to indicate how true each statement was to him/her on a 5-point scale: 1.

never or almost never true of me; 2. usually not true of me; 3. somewhat true of me; 4.

usually true of me; and 5. always or almost always true of me. In the second section,

section B, nine open-ended questions were given to the participants to investigate their

preferences for their Mandarin learning activities. The final section, section C, contained

8 open-ended questions which were designed to gather respondent's personal

background. All the three sections were compiled together into one questionnaire and

were posted on the URL provided by the 'Thesis Tools' (a free on-line thesis

questionnaire tool) for this study (see Appendix A for the complete questionnaire).

Research Hypothesis

1. H : Students from different native language backgrounds will

use different learning strategies when they learn Chinese characters.

2. $H_\circ$: Students from different native language backgrounds will not use different

learning strategies when they acquire Chinese characters.

Data Analysis

The Statistical Package for the Social Science (SPSS) will be used to process the

responses of the returned questionnaire. Frequency of all the Likert-scaled questions will

be demonstrated and explained. An independent samples t-test will be used to assess

whether the means of the two groups will be statistically different from each other. In

other word, reject the null hypothesis $H_\circ$ that students of different native language

background will not use different learning strategies.

RESULTS

Respondents Profile

The purpose of this research was to discover whether students of different native language backgrounds (Roman alphabet versus East Asian languages) would apply different vocabulary acquisition strategies when learning Chinese characters. For this reason, information about students' personal language background becomes an integral part of their database. Part C of the survey questionnaire was then designed to meet the need and since we focused on student's language learning, and because all the participants are in a same Mandarin class, the general demographic questions regarding gender, and age were not included in the questions.

Table 1 divides student's into two groups according to their native language background. Among the 33 respondents, nine (27.3%) were considered as East Asian language speakers: five of them are native speakers of Korean, three are from Japan, and one is Cantonese from China. The remaining 24 (72.7%) respondents belonged to the Roman alphabet-based language group. Among them, twenty three are native speakers of English, one is native speaker of Germany, and the last one is native speaker of Filipino.

Table 1.

Student's native language background: (n=the number of students)

Roman Alphabet-base			**East Asian**		
	n	%		n	%
English	22	66.7	Korean (#3,6,11,21,33)	5	15.2

German (#1)	1	3.0	Japanese (#10,19,20)	3	9.1
Filipino (#12)	1	3.0	Cantonese (#24)	1	3.0
Total	24	72.7	Total	9	27.3

Seven (21.2%) respondents indicated that they don't speak any other language beside their own native languages (it was interesting to notice that all of these seven students are native English speakers). "The other language(s)" that the students mentioned they can speak other than their mother language including: Spanish, Chinese, English, Korean, Japanese, Vietnamese, Thai, French and Russian. When asked about the length of studying Chinese, the answers varied from the least of 5 months to the most of 5 years, however, the majority (69.7%) have more than 2 years learning Chinese experience.

Eighty-five percent (85%) of the respondents indicated that the main reasons they learn Chinese were: **a**. because Chinese language is important in the future; **b.** because they live in Taiwan which is a Chinese speaking country; and **c.** knowing Chinese will be beneficial to their future carriers. Some of the respondents (9%) confessed that they were forced to learn the language by their parent(s) or other family members.

As to the question about respondents' general classroom experience in learning Chinese, the answers included: interesting, friendly, fun, challenging, educational, hard, difficult, structural, and productive. When asked about the number of characters they can recognize, about half of the students (48.5%) said they don't really know how many words they actually know. Nine (27.2%) students indicate that they know about 100 to 200 characters. Six (18.1%) students said they know less than a hundred characters. An

interesting phenomenon is that the number of characters a student knows does not correlate with the length of their learning.

Among the students of Roman alphabet-based language (English, German, and Filipino), the foreign languages they have ever learned besides Chinese are: Spanish, French, Japanese, Russian, and Vietnamese. While the foreign languages learned by the East Asian students (Korean, Japanese, and Cantonese), English was indicated as the main foreign language learned by all of the students, and some of the Korean students also learned Japanese. Four students indicated that one of their parents is native speaker of Chinese, there is only one student whose parents are both native speakers of Chinese; however, all of them considered 'English' as their native language. There isn't any clue showing that students whose parent(s) has Chinese language background excelled their peers in their Chinese learning achievement.

Even though the respondents were requested to supply any additional strategies that were not covered in the 55 strategies listed that they felt were useful and helpful to the Chinese character acquisition, none of the answers were out of the boundary of the list of the 55 strategies in the questionnaire.

Vocabulary Learning Strategy Analysis

Part 1: Data Analysis Process

The 55 questions in the current research questionnaire were a combination of the five major strategy classifications derived from the Oxford's (1990) learning strategy system and the Schmitt's (1997) taxonomy of vocabulary learning strategies. Questions number 1, 2, 3, 4, 5, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 44, 49, 50, 51, 52, 53, 54,

55 are in the Memory Strategy (MEM) group; questions 8, 10, 21, 22, 23, 24, 25, 26, 27, 35, 45, 46, 47 are in the Cognitive Strategy (COG) group; questions 28, 29, 30, 31, 38, 39 are Social Strategies (SOC); questions 36, 37, 40, 41, 42, 43, 48 fall in the Metacognitive Strategy (MET) group; and questions 18, 32, 33, 34 are in the Determination Strategy (DET) category (Table 2). Because it was our concern to not confuse students with the so called 'professional words', those five classification terms were not shown in the questionnaire, and all the questions were distributed in a randomly mixed order.

Table 2.

Memory Strategy (MEM)
1. I think of relationships between what I already know and new things I learn in Chinese.
2. I use new Chinese words in a sentence so I can remember them.
3. I connect the sound of a new Chinese word and an image or picture of the word to help me remember the word.
4. I remember a new Chinese word by making a mental picture of a situation in which the word might be used.
5. I use rhymes to remember new Chinese words.
6. I use flashcards to remember new Chinese words.
7. I physically act out new Chinese words. (i.e. do throwing action when studying the word "throw" or "丢" in Chinese)
9. I remember new Chinese words or phrases by remembering their location on the page, on the board, or on a street sign.

11. I connect word to a personal experience.

12. I group words together to study them.

13. I group words together within a storyline.

14. I study the spelling of a word.

15. I study the sound of a word.

16. I say new word aloud when studying.

17. I image word form.

19. I learn new words in an idiom.

20. I make image of the word's meaning.

44. I put synonyms or antonyms together in my notebook.

49. Repeating the sound of a new word to me would be enough for me to remember the word.

50. I group words into categories (e.g., animals, utensils, vegetables, etc.)

51. I associate a new word with a known Chinese word that sounds similar.

52. I visualize the new word to help me remember it.

53. I remember the sound of a word by breaking it into several visual parts.

54. I remember together words that sound similar.

55. I associate a group of new words that share a similar part in spelling with a known word that looks or sounds similar to the shared part.

Cognitive Strategy (COG)

8. I review Chinese words often.

10. I use word lists to study new words.

21. I use verbal repetition to memorize new words.

22. I use written repetition to memorize new words.

23. I use word lists.

24. I take notes in class.

25. I use the vocabulary section in the textbook.

26. I listen to tape of word lists.

27. I keep a vocabulary notebook.

35. I put Chinese labels on physical objects.

45. I take down the collocations of the word I look up.

46. I note down examples showing the usages of the word I look up.

47. I make vocabulary cards and take them with me wherever I go.

Social Strategy (SOC)

28. I ask teacher for English translation.

29. I ask teacher for Chinese translation.

30. I ask classmates for meaning.

31. I discover new meaning through group work activity.

38. I interact with native Chinese speakers.

39. I interact with other non-native speakers of Chinese.

Metacognitive Strategy (MET)

36. I use Chinese-language media (songs, movies, newscasts, etc.)

37. I continue to study the word over a period of time.

40. I read Chinese newspapers & magazines.

41. I read Chinese books other than textbooks.

42. I use various means to make clear vocabulary items that I am not quite clear of.

43. I only focus on words that are directly related to examinations.

48. I make regular and structured reviews of new words I have memorized.

Determination Strategy (DET)

18. I study a word's "radical".

32. I guess words from textual context.

33. I use bilingual dictionary.

34. I use monolingual dictionary.

At the beginning, we examined the data regardless the respondents' native language background and later on, a comparative analysis of the learning strategies of students whose native language is Roman alphabet-based and East Asian students whose native language is either character-based or alphabet-based will be discussed.

Measures of frequency were used to indicate how often a particular strategy was used by the students. Figures 1, 2, 3, 4, 5 are frequency bar graphs that demonstrate the results students think how true the strategies are to them. The x-axes represent all the questions in the certain category; the y-axes are the percentages of the respondents. A 5-

point Likert scale was used to calculate how each strategy applies to the respondents : 1 = never or almost never true of me; 2 = usually not true of me; 3 = somewhat true of me; 4 = usually true of me; 5 = always or almost always true of me.

Figure 1 shows the results of how true the memory strategies listed are to the students. Of the 25 strategies in this section, question number 15: 'I study the sound of a word' received highest agreement: 82% of the respondents indicated that this strategy is true to very true to them. Question number 16, 'I say new word aloud when studying', and question number 3 'I connect the sound of a new Chinese word and an image or picture of the word to help me remember the word', ranked 2nd and 3rd highest agreement in this section. The least agreeable strategies in this section are questions number 44, 5, and 7. In question 44, 'I put synonyms or antonyms together in my notebook' 42% of the respondents indicated it is never true for them, 36% indicated almost never true for them. For question 5, 52% of the respondents said they never use rhymes to remember new Chinese words. As to question 7, forty two percent (42%) of the students said they never physically act out new Chinese words.
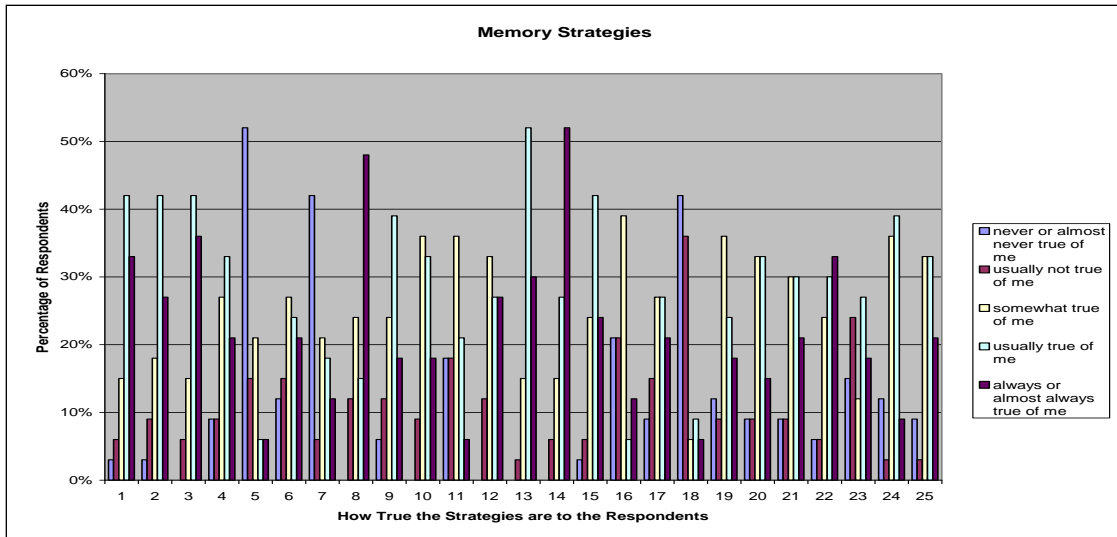
Figure 1. How True the Memory Strategies are to the Respondents

The results of percentage of respondents indicating how true the Cognitive

Strategies are to them are demonstrated in Figure 2. Among the 13 cognitive strategies,

we found that an overwhelming majority (94%) of the students make use of the

vocabulary section in the textbook; 82% of the students prefer to use written repetition to

memorize new words; 77% of the students said they frequently use verbal repetition to

memorize new words; 75% said they also use word lists very often. The least agreeable

strategy students use in this section is strategy number 47, 'I make vocabulary cards and

take them with me wherever I go'. About 60% of the respondents seemed not take

advantage of this strategy, only 9 students said they usually or always use this strategy.

Sixty three (63%) percent of the students strongly disagree or disagree with the strategy

of putting Chinese labels on physical objects (question number 35).

Cognitive Strategies

Percentage of Respondents

Legend:
- never or almost never true of me
- usually not true of me
- somewhat true of me
- usually true of me
- always or almost always true of me
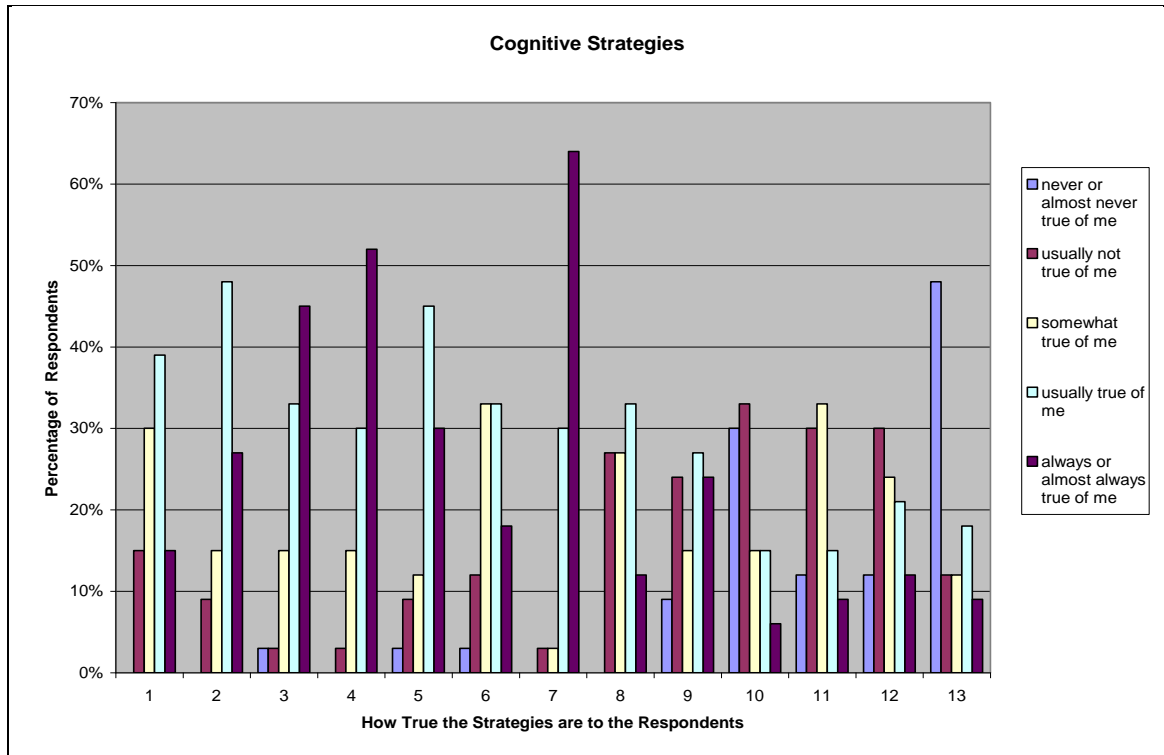
How True the Strategies are to the Respondents

Figure 2.   How True the Cognitive Strategies are to the Respondents

From the results in Figure 3, it is clear to find that to our target students, there is a stronger affinity for the use of bilingual dictionary than monolingual dictionary (57% vs. 27%). Actually, as high as 66% of the students indicated that they never or don't usually use monolingual dictionary, and 39% of the students indicated that they never or don't usually use bilingual dictionary. It is surprising that 60% of the respondents indicated that they don't usually study a word's 'radical' when encounter a new word; since the majority of Chinese characters are combination of a radical and a phoneme. Another curious finding is that a large number of the students (69%) when they encounter new words they tend to guess the words from textual context.
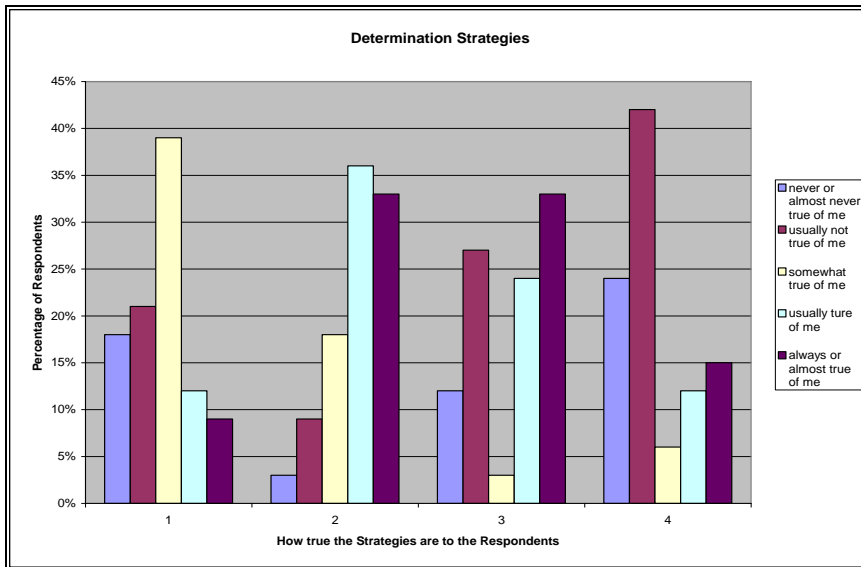
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Figure 3. How True the Determination Strategies are to the Respondents

Figure 4 demonstrates the results from the six social strategies. According to the chart, it is obvious that most of the students held high preference toward the strategies listed in this category (all gained over sixty percent respondents' consent). As the nature of social strategies, all of the strategies in this section involve certain interaction with other people. For example, 'ask teacher for translation', 'ask classmates for meaning', 'discover new meaning through group work activity', and 'interact with native or non-native speakers of Chinese'. Although majority of the students seemed favor to use the interaction strategies, there were somewhat certain dissimilarities between the interacted targets. Based on the data, it is clear that the students tend to ask questions and interact with their classmates more than they do with their teachers or other native speakers of Chinese.
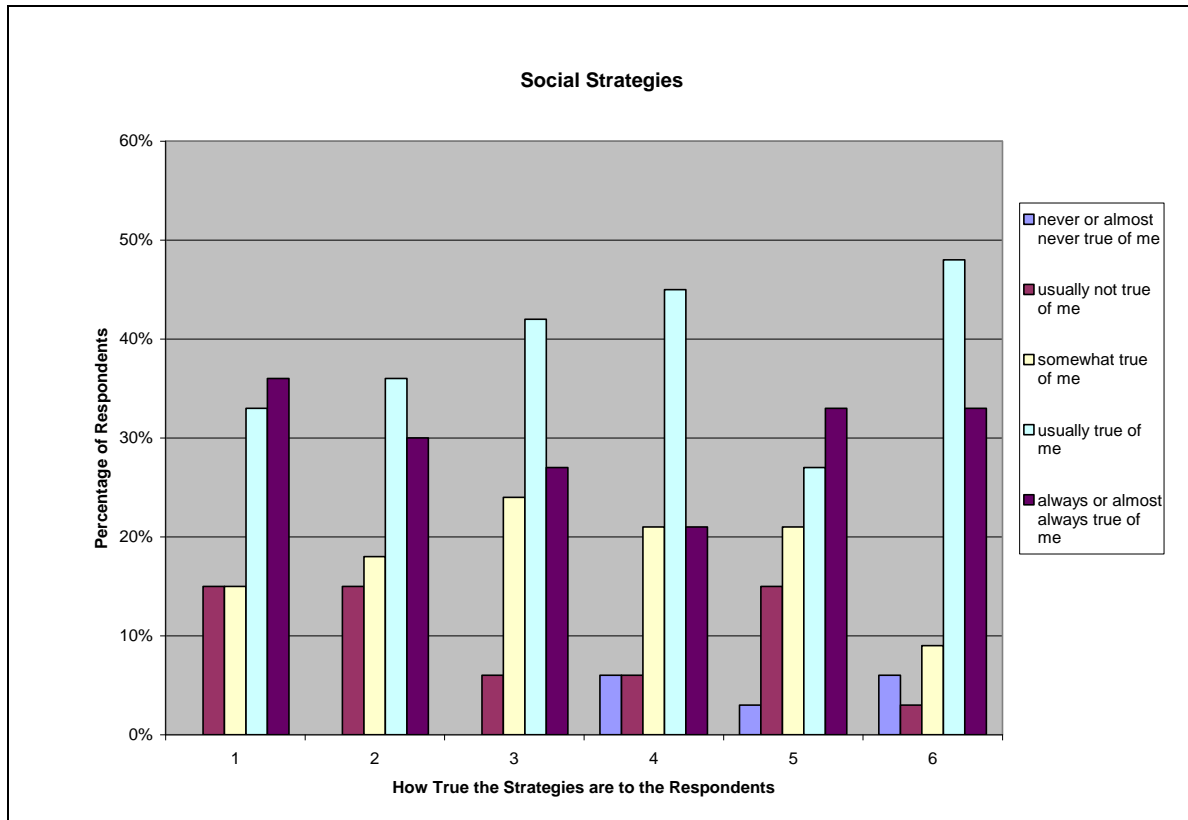
Figure 4. How True the Social Strategies are to the Respondents

Figure 5 presents the results of using metacognitive strategies. Generally

speaking, metacognitive strategies are kind of broad strategies; students usually employ

them to have an overall control and evaluation of their own learning preferences and

needs. In other words, they are used for the concern of more efficient learning. It is said

that metacognitive strategies are often strong predictors of L2 proficiency (Oxford,

1990). As a consequence, it is not an easy task for novice students (like our subjects) to

manipulate the use of metacognitive strategies. It is clear evidence from our data that

students have more difficulty to answer the questions regarding the metacognitive

strategies or they were uncertain about using the specific strategies mentioned. Strong

proves of students not using the strategies are best shown in questions 40 and 41.

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Seventy-eight percent (78%) and eighty-eight percent (88%) of the students expressed their strong disagreement of using the strategies such as 'read Chinese newspapers & magazines', and 'read Chinese books other than textbooks'.

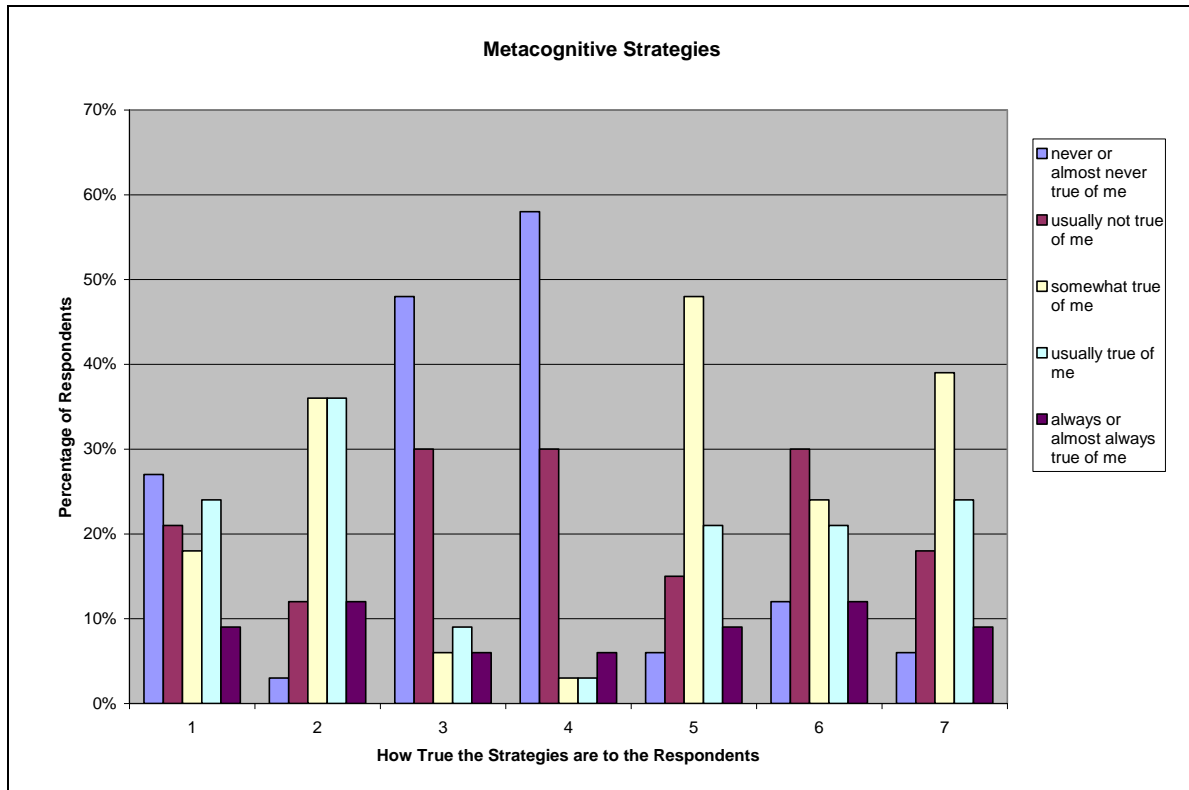**Metacognitive Strategies**

Figure 5. How True the Metacognitive Strategies are to the Respondents

Part 2: Comparison between the two groups

It was hypothesized that students from different native language backgrounds will use different learning strategies when they learn Chinese characters. The two populations being compared in this research were students whose native language was Roman "alphabet-based" and East Asian students whose native language was "character-based" or "alphabet-based). This hypothesis was tested by comparing how students responded to the application of vocabulary learning strategies when they learn Chinese vocabulary.

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Because the number of questions in each category was different, we began the

calculation with summing up the individual scores from each of the categories for each

group of the students and divided by the number of students answered the questions. We

then computed mean (*M*) and standard deviation (*SD*), the result came out as shown in

Table 3.

Table 3.

Mean and Standard Deviation

	Roman Alphabet Group			East Asian Group		
Strategy	**M**	**SD**	**n**	**M**	**SD**	**n**
MEM	84.95	16.00	22	84.89	15.24	9
COG	43.96	10.37	24	43.22	5.80	9
DET	12.17	4.00	24	12.11	3.30	9

As can be seen from Table 3, students from both groups used memory strategies much

more than any other strategies to learn Chinese characters (Ms = 84.95 & 84.89).

Comparing the means (Ms) of the five strategy categories, it is evident that both groups

of students reported very similar preferences in using those strategies. The results of the

independent samples t-test (Table 4) revealed that there is no significant difference in the

use of strategies by students of different native language backgrounds in learning Chinese

characters. In other words, the result rejected our hypothesis that students of different

native language origins would use different vocabulary learning strategies when learn

Chinese characters.

Table 4.

Results of Independent Samples t-Test

Strategies	t	df	p
MEM	.011	29	.992
COG	-.200	31	.843
DET	-.037	31	.971
SOC	-.814	31	.422
MET	-.774	30	.445

Summary

The results of the t-test demonstrated that students from the two different native language backgrounds did not apply vocabulary learning strategies with significant difference. The two groups of students demonstrated quite homogeneously in their preferences of using or not using certain strategies to help them learn Chinese characters. The most agreed learning strategies among all the students are:

- COG : I use the vocabulary section in the textbook. (94%)

- COG : I use written repetition to memorize new words. (82%)

- MEM : I study the sound of a word. (82%)

- SOC : I interact with other non-native speakers of Chinese. (81%)

- MEM : I say new word aloud when studying. (79%)

- MEM : I connect the sound of a new Chinese word and an image or picture of the word to help me remember the word. (78%)

- COG : I use verbal repetition to memorize new words. (77%)

The least agreed strategies are:

- MET : I read Chinese books other than textbooks. (88%)

- MET : I read Chinese newspapers & magazines. (78%)

  - MEM : I put synonyms or antonyms together in my notebook. (78%)

CHAPTER 5

DISCUSSION AND CONCLUSION

It is believed that the most complex task in learning the Chinese language is the learning of Chinese characters. Since the Chinese character system has been classified as logographic system, or logographies which are one of the earliest true writing systems exist in the world. The main difference between logograms and other writing systems is that the graphemes (the fundamental unit in written language) aren't linked directly to their pronunciation. Because of this specific nature of Chinese, it is relatively more difficult to remember or guess the sound of a written Chinese character than of alphabetic written words. It is actually almost impossible to make the guess in most of the times. Moreover, just like Roman letters that have a characteristic shape (lower-case letters occupying a roundish area, with ascenders or descenders on some letters and written in a line), Chinese characters occupy a more or less square area, called "square-block" characters, which can cause a total visual confusion for learners who are used with the linear writing system like Roman alphabets in English and simultaneously not familiar with this peculiar square block scrips.

The world-wide increased interests in learning Chinese have created Chinese language classrooms composed by both students from all over the world whose native language background could be Roman alphabet-based (such as English) and character-based (Japanese) that in turn can created higher challenges for instructors as well as program providers in this field.

Generally speaking, the so called "Western" educational system focuses on the learner's analytical skills, competitiveness, and creativity which is very different from

the "Asian" educational system that emphasizes mostly on "traditional" learning styles like rote memorization, repetition, and cooperation. Perhaps as a partial consequence of the different nature of the educational systems, students from those two different backgrounds may demonstrate different approaches in employing learning strategies. This was my original intention to discover whether students from those two different systems plus their different native language background would demonstrate different learning strategies when they all come to learn the Chinese language.

A critical issue raised with the classification of our subject students regarding to their native language backgrounds. Among the 33 students participated in this study, the 22 speakers of English, 1 of Germany and 1 of Filipino were easily grouped in the alphabet-based group. The problematic group was the group I intended to make that contained the 5 Korean students, 3 Japanese students and the one Cantonese student. Historically, the Japanese language as well as Korean and Cantonese all have strong linkage with Chinese language. However, with the exception of Cantonese, neither Japanese nor Korean is considered as pure character-based language.

The Japanese language is written with a combination of three different types of scripts: modified Chinese characters called *kanji* (漢字), and two syllabic scripts made up of modified Chinese characters, *hiragana* (平假名) and *katakana (*片假名). Even though Japanese vocabulary has been heavily influenced by loanwords from other languages. The vast majority of words were borrowed from Chinese, or created from Chinese models, over a period of at least 1,500 years. According to a Japanese dictionary *Shinsen-kokugojiten* (新選国語辞典), Chinese-based words comprise 19.1% of the total

vocabulary. Japanese students begin to learn kanji from their first year at elementary school.

Korean language on the other hand, has also been deeply influenced by Chinese language throughout the Korean history. Chinese writing '*hanja*' has been known in Korea for over 2,000 years. It was used widely during the Chinese occupation of northern Korea from 108 BC to 313 AD. Like the Japanese, the Koreans borrowed a huge number of Chinese words, gave Korean readings and/or meanings to some of the Chinese characters and also invented about 150 new characters. It was until the mid-15th century with the invention and promulgation of the Korean alphabet system that Koreans started to have their native language system. The modern name for the alphabet system is "Hangul" (or Hangeul). Hangul is a phonemic alphabet organized into syllabic blocks. Originally, the alphabet (Hangul) was associated with people of low social status, i.e. women, children and the uneducated. At beginning, even after the invention of Hangul, most Koreans, the educated males, who could write continue to write with classical Chinese. Before the invention of Hangul the majority of Koreans were effectively illiterate. Since independence from Japan, the Koreans have used Hangul or mixed Hangul as their sole official writing system, with ever-decreasing use of *hanja,* Chinese character in Korea. Since the 1950s, it has become uncommon to find Chinese character in commercial or unofficial writing in the South, with some South Korean newspaper only using Hangul. It was until the late 1960s the teaching of *hanja* was reintroduced in the Korean schools. In South Korea, school children are expected to learn 1,800 *hanja* by the end of high school.

Hangul system has been classified as an alphabetic system because its graphemes represent both consonant and vowel sounds, however, it is a unique alphabet in a variety of ways which make it different from the western alphabet languages: 1) it is a featural alphabet where the shapes of the graphs are related to the phonemes they represent. The shapes of consonant letters are based on the shape of the mouth and tongue in the production of that sound, and the vowels are built from vertical or horizontal lines so that they are easily distinguishable from consonants. 2) Unlike the linear alphabets such as Greek and Latin alphabets, Hangul alphabet situates individual letters into syllable clusters with equal dimensions as Chinese characters to allow for mixed script writing. Based on all the facts related to Hangul, it was inappropriate to group the Korean students into the western alphabet group. Considering all the features listed above and the historical bonds with the Chinese language influence, I eventually came to the conclusion of distinguishing the students into two groups: the Western Alphabet group and the Eastern Asian group.

Interpretation of the Results

Even though it was hoped that the two groups in the present study would apply different vocabulary learning strategies, however, the t-test results of the survey failed to reject the null hypothesis which means that there is no significant difference in using vocabulary learning strategies between those two groups of students. Nevertheless, it is still worth some insight discussion, with hopes that no matter what result came out from this study, it may still contribute to a greater understanding of the processes of Chinese-character learning and that the information gained from this study will help Chinese-

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language instructors not only to know their students' strategies and approaches to learning Chinese characters, but also to motivate those instructors to design more efficient and practical Chinese-language curricula which will enhance the learning experience and outcomes for students of different native language. Follow up discussions and suggestions based on the current study will be presented next.

According to Oxford's (1990) definition "memory strategies" are "techniques specifically tailored to help the learners store new information in memory and retrieve it later" (p. 404). Oxford and Crookall (1998) said that memory strategies involve strategies including grouping, associating, elaborating, and using imagery. Theoretically, most memory strategies involve relating the word to be retained with some previously learned knowledge, using some form of imagery, or grouping (Schmitt, 1997). Some researchers also found that pairing L2 words with pictures has been shown to be better than pairing them with their L1 equivalents in Russian (Kopstein and Roshal, 1954) and Indonesian (Webber, 1978). Other researchers suggest that creating learners' own mental images of a word's meaning could well be more effective for vocabulary learning than mere repetition (Steingart and Glock, 1997). In addition, grouping is also a highly recommended memory strategy for not only in L1 acquisition but also in L2 acquisition, because scholars proved when words are organized in some way before memorization recall is improved (Cofer, Bruce, and Reicher, 1966).

In our study, students did apply many memory strategies to help them in their study. Memory strategies like study the sound of a word, say new words aloud, connect the sound of a new word and an image or picture of the word, think of relationships

between already known words with new things in Chinese, and use new words in a sentence. However, students did not use very frequently some strategies that were strongly recommended throughout the time by researchers such as put synonyms or antonyms together in notebook, use rhymes to remember new words, use flashcards to remember new words, group words together, or learn new words in idioms. Since vocabulary capability is an important indicator and step stone toward Chinese proficiency. Good memorization of words becomes critical to the learning outcome. In order to help those students to learn how to acquire more vocabulary with higher efficiency, teachers should introduce memory strategies more actively. They could recommend one strategy by each time or several strategies together so that students could choose the ones that they felt the most comfortable with and most efficient to them. To design a balanced vocabulary class that is interwoven with several strategic activities to help students achieve the maximum of their ability is a high intellectual challenge to the teachers. No matter what kind of strategic activities have done in each class, for example, small group riddle competition, idiom memorization, make sentences with rhymes, students should always be encouraged to make their own vocabulary flashcards or notebooks the size that they can easily carry to wherever they go and use them whenever possible.

Cognitive strategies require learners' direct manipulation of the language material for the purpose of acquiring or retaining that information (Oxford, 1990). Cognitive strategies in Schmitt's explanation are similar to memory strategies; both of them involve some form of manipulation to enhance recall of words. Schmitt includes

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those strategies that involve repetition and using mechanical means to study vocabulary (1997). Written and verbal repetition, repeatedly writing or saying words over and over again are common strategies in many parts of the world. Word lists and flash cards are both highly recommended cognitive strategies for initial contacts with a new word, they were also found helpful for afterward reviews. Using study aids like taking notes in class and vocabulary notebooks have also been recommended by a number of researchers (Allen, 1983).

The results in this study demonstrated that using the vocabulary section in the textbook seemed to be the most popular cognitive strategy for all the participants. Actually, students showed strongest affinity for it and rated this strategy as the top among the 55 strategies listed. Other cognitive strategies like using written repetition, verbal repetition and word list to memorize new words were also found very favored by the participants. However, contrary to recommendations from researchers, participants in this study showed low interest in the following strategies, either because they did not use the following strategies frequently, or they were unfamiliar with them, or they just found them not useful or helpful. Strategies found in this group include listen to tape of word lists, keep a vocabulary notebook, take notes in class, review words often, take down collocations of the word looked up, note down examples showing the usages of the word looked up, make vocabulary cards and take them everywhere, put Chinese labels on physical objects – all the strategies that seemed or were recommended for students to acquire and retain vocabulary more effectively. Since the application of cognitive strategies requires learner's direct manipulation, if students' attitudes are not motivated

enough to be willing to do extra efforts in their learning, it is relatively more difficult for the teachers to train students in these strategies although would be valuable but not easily done.

Determination strategies can facilitate learners gather meaning of a new word (Schmitt, 1997). In our questionnaire, there are only four strategies listed in this group. It was surprising to discover that those strategies which were highly recommended by researchers over the time were not that popular in this study, or had very different outcomes than expected. For example, 'radicals' are important parts of the formation of Chinese characters; they help learners understand the general meaning of a character, get the hints of the pronunciation which is crucial to the recognition and acquisition of Chinese characters. Consequently, studying or understanding the 'radical' of a new word could be important and helpful for students' vocabulary improvement. However, data in the study showed that as high as 39% of the students either had no idea about radicals or didn't think studying radicals was important or helpful.

Another discovery was that although research suggests the inferiority of bilingual dictionaries to monolingual dictionaries (Nation, 1990; Laufer & Handar, 1997), they were considered more helpful and preferable by the participants. In contrast, using monolingual dictionaries was much less preferred by the participants. Although students rated highly in guessing words from textual context, it was also very debatable, because this strategy is usually more applicable to proficient students who already know certain amount of vocabulary in the target language, for novice students like those in this study, guessing words from textual context could definitely be far too difficult and not efficient

for them, but yet, they rated it as the top strategy among the 4 determination strategies provided in the list. To accommodate those students, teachers could insert a "radical" time within their everyday lesson. The presentation could be very interesting when showing students how the radicals were originally invented especially if they can use animated pictures to explain the process. As regards to the use of dictionaries, teachers could facilitate the use of monolingual dictionaries simply by introducing widely accepted learner's dictionaries and teach students how to use them, and spend some classroom time working with students in checking up dictionaries. Bilingual dictionaries are still useful to students, they are recommended when students have some troubles with monolingual dictionaries.

According to Krashen's (1982) definition, input is a key element in language acquisition. Krashen (1985) proposed that second languages are acquired "by understanding messages or by receiving 'comprehensible input'" (p.2). From Krashen's point of view, the 'comprehensible input' should be in sufficient quantities. Interacting with native speakers whenever possible also increases input. Milton and Meara (1995) in their study found that the average vocabulary gains of one group of non-native speakers enrolled in a British university was almost four times more than they previously gained in their home country.

All the participants in the current study are students enrolled in the Taipei American School in Taiwan, where Chinese is the local official language, interaction with native-speakers and many other Chinese language resources were guaranteed to be abundant. Generally speaking, the results showed that participants did take the advantage

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of social strategies by asking either teachers or classmates or even through group work activity to discover the meaning of a new word or practice vocabulary. However, it was a little disappointed to find out that students showed higher preference in interacting with non-native speakers than with native speakers. Eighty one percent (81%) of the students said they interact with other non-native speakers of Chinese but only 60% of the students said they interact with native Chinese speakers to improve their vocabulary ability. The data told us that the students in the study may be to shy to interact with native speakers or they could not find enough resource for themselves to be exposed in the native speaker circle. Teachers on the other hand could arrange more opportunities for students to meet native speakers, for example, invite local people of vast professions to visit classroom, give speech, or any kind of professional demonstrations (for example, traditional puppet show, art, …), set group projects for students to interview local people.... all kinds of arrangement made to increase students' interaction with native speakers.

Metacognitive strategies are generally broad strategies concerned with more efficient learning, they are used by students to control and evaluate their overall learning (Oxford, 1990). A learner can maximize his/her target language exposure by using target language-medium books, magazines, newspapers, movies and TV. The social strategies discussed previously such as interacting with native speakers whenever possible, asking teachers or classmates for meaning or translation are also considered as metacognitive strategies if they are part of the learning plan (Schmitt, 1997). Testing oneself also provides considerable amount of input. It has been shown that testing efficiently improves long-term recall (Thompson, 1987).

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The seven metacognitive strategies included in this study were perceived as the least frequently used strategies among all the strategies. It could be explained that students might be ambiguous with the questions like 'I use various means to make clear vocabulary items that I am not quite clear of', 'I make regular and structured reviews of new words I have memorized', and 'I continue to study the word over a period of time'. Students when they are not proficient enough in Chinese could be highly prejudiced against some effective metacognitive strategies such as reading Chinese newspapers and/or magazines, or reading Chinese books other than textbooks, which were highly recommended strategies by many other researchers in this field. To help students make use of these strategies, teachers could use materials taken directly from media to supplement regular textbooks. It would help students use these strategies outside the classroom more effectively. Teachers could also recommend books or TV programs, movies, songs to students which are appropriate for students' levels so that students can continue to use these strategies with much more fun.

To sum, in order to help students to learn more effectively, teachers' role as 'teacher' become more complicated than before. It is no longer restricted to teach materials only, teachers should coordinate students' learning to help them become more effective learners. They were expected to spend more time instructing students in how to become motivated learners and consequently become more successful learners, they were expected to introduce learning strategies more actively. However, it should be important to consider individual differences when teaching or instructing learning strategies. Learner acceptance should also be taken into account as one of the most important

ingredients for learning success. Teacher's efforts to introduce and train students in these strategies would be valuable although it would not be an easy task.

Wenden's (1987) suggestions about how to implement strategy training are specially valuable for language teachers when they intend to design a balanced and effective vocabulary learning curriculum. First, I agree with her idea that informed training is more effective than blind training because when students get explicit idea in the use of the strategy, the need for it, and its anticipated effects. With clear goal in their mind they are expected to learn better and perform better during the learning. Second, strategy training should incorporate into a particular set of language training activities which can mutually enable the learner to understand the relevance of the task, and plan and monitor their own learning. Third and lastly, whatever is taught should always be determined by expected outcomes, it is never too much to include evaluation tasks in any language learning curriculum.

Recommendations for Future Research

Throughout the process of this study, I was frustrated by a number of facts that were beyond my ability to change that could have had changed the outcome of this study and had made it a better reference to future studies. First of all, it was such a long distance between me and the participating students (USA---Taiwan) which made it impossible to answer any question student might encounter when they were answering the questionnaire. Second, I anticipated having more instructors as well as students from the TAS to participate the study, and again because of the distance gap, it was almost not possible to get more of them involved in this study, as a result, only one instructor and 33

students participated in the study. Third, the result was not consistent with related literature that students of different background language tend to use different vocabulary learning strategies.

This study was limited by a relatively small group of Chinese language learners, and was limited to participants who currently reside and study in Taipei, Taiwan, whose native language was either alphabetic or character-based. Moreover, it was limited to the second-year high school students studying at the Taipei American School in Taipei, Taiwan.

No matter how unsatisfactory the result of this study was to what was expected, it still provides significant insights for future research. For example, future research on Chinese vocabulary learning strategies might include learners from more diverse language backgrounds (e.g., Spanish, French, or Arabic) and more various grade levels (e.g., K-12, college students, and adult students from private, public and non-academic sectors). With the growing ever-more-diverse classroom in the future, the application of such knowledge of using language-learning strategies will be increasingly important and beneficial to Chinese language teaching and learning.

Second, future studies might also sample Chinese-language students who are pursuing their studies in not only Chinese speaking countries like Taiwan or China, where Chinese is the main official language of the local people, but also sample students who are learning Chinese in places where they can hardly access the language outside of classroom. Third, future research might also include those known as "heritage learners" whose first language could be either alphabet-based or character-based but culturally or

ethnically inherited or influenced by family or environments in which spoken and/or written Chinese are used regularly as either first or second language.

Finally and most importantly, valuable research is yet to be performed on the so called "good learners" of Chinese language. Based on the findings of what students use to learn Chinese more efficiently, it could serve to better prepare Chinese-language educators with respect to the use of language learning strategies; teachers on the other hand, may be more prepared to make their students aware of the possibilities and effectiveness of using certain vocabulary learning strategies.

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APPENDIX

Chinese Character Learning Questionnaire

Information on answering this questionnaire:

This project is for studying the problems of Chinese vocabulary (character) acquisition. Its purpose is to find an effective way of learning Chinese character. The results will be kept in strict confidentiality and will only be used in research. We highly appreciate your help and cooperation.
There are **three parts** in this questionnaire. **Part A** contains **55** questions with similar system of answers to choose from. In this part, you will find statements about learning Chinese characters. Please read each statement carefully and circle the response (1, 2, 3, 4, or 5) that tells HOW TRUE THE STATEMENT IS TO YOU.

1. never or almost never true of me
2. usually not true of me
3. somewhat true of me
4. usually true of me
5. always or almost always true of me

Part B is a set of open-ended questions on Chinese-character learning activities.
Part C contains some open-ended questions that let us know more about you.

Please answer all the questions in terms of how well they describe you. Do not answer how you think you should be, or what other people do. There is no right or wrong answers to these questions. This questionnaire usually takes about 15-20 minutes to complete. If you have any question, please let your instructor know immediately.

Part A

1. I think of relationships between what I already know and new   1 2 3 4 5

   things I learn in Chinese.

2. I use new Chinese words in a sentence so I can remember them.   1 2 3 4 5

3. I connect the sound of a new Chinese word and an image or   1 2 3 4 5

   picture of the word to help me remember the word.

4. I remember a new Chinese word by making a mental picture of   1 2 3 4 5

a situation in which the word might be used.

5. I use rhymes to remember new Chinese words.   1 2 3 4 5

6. I use flashcards to remember new Chinese words.   1 2 3 4 5

7. I physically act out new Chinese words. (i.e. do throwing action   1 2 3 4 5

   when studying the word "throw" or "丢" in Chinese)

8. I review Chinese words often.   1 2 3 4 5

9. I remember new Chinese words or phrases by remembering   1 2 3 4 5

   their location on the page, on the board, or on a street sign.

10. I use word lists to study new words.   1 2 3 4 5

11. I connect word to a personal experience.   1 2 3 4 5

12. I group words together to study them.   1 2 3 4 5

13. I group words together within a storyline.   1 2 3 4 5

14. I study the spelling of a word.   1 2 3 4 5

15. I study the sound of a word.   1 2 3 4 5

16. I say new word aloud when studying.   1 2 3 4 5

17. I image word form.   1 2 3 4 5

18. I study a word's "radical".   1 2 3 4 5

19. I learn new words in an idiom.   1 2 3 4 5

20. I make image of the word's meaning.   1 2 3 4 5

21. I use verbal repetition to memorize new words.   1 2 3 4 5

22. I use written repetition to memorize new words.   1 2 3 4 5

23. I use word lists.   1 2 3 4 5

24. I take notes in class. 1 2 3 4 5

25. I use the vocabulary section in the textbook. 1 2 3 4 5

26. I listen to tape of word lists. 1 2 3 4 5

27. I keep a vocabulary notebook. 1 2 3 4 5

28. I ask teacher for English translation. 1 2 3 4 5

29. I ask teacher for Chinese translation. 1 2 3 4 5

30. I ask classmates for meaning. 1 2 3 4 5

31. I discover new meaning through group work activity. 1 2 3 4 5

32. I guess words from textual context. 1 2 3 4 5

33. I use bilingual dictionary. 1 2 3 4 5

34. I use monolingual dictionary. 1 2 3 4 5

35. I put Chinese labels on physical objects. 1 2 3 4 5

36. I use Chinese-language media (songs, movies, newscasts, etc.) 1 2 3 4 5

37. I continue to study the word over a period of time. 1 2 3 4 5

38. I interact with native Chinese speakers. 1 2 3 4 5

39. I interact with other non-native speakers of Chinese. 1 2 3 4 5

40. I read Chinese newspapers & magazines. 1 2 3 4 5

41. I read Chinese books other than textbooks. 1 2 3 4 5

42. I use various means to make clear vocabulary items that I am 1 2 3 4 5

    not quite clear of.

43. I only focus on words that are directly related to examinations. 1 2 3 4 5

44. I put synonyms or antonyms together in my notebook. 1 2 3 4 5

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45. I take down the collocations of the word I look up.   1 2 3 4 5

46. I note down examples showing the usages of the word I look   1 2 3 4 5

    up.

47. I make vocabulary cards and take them with me wherever I go.   1 2 3 4 5

48. I make regular and structured reviews of new words I have   1 2 3 4 5

    memorized.

49. Repeating the sound of a new word to me would be enough for   1 2 3 4 5

    me to remember the word.

50. I group words into categories (e.g., animals, utensils,   1 2 3 4 5

    vegetables, etc.)

51. I associate a new word with a known Chinese word that sounds   1 2 3 4 5

    similar.

52. I visualize the new word to help me remember it.   1 2 3 4 5

53. I remember the sound of a word by breaking it into several   1 2 3 4 5

    visual parts.

54. I remember together words that sound similar.   1 2 3 4 5

55. I associate a group of new words that share a similar part in   1 2 3 4 5

    spelling with a known word that looks or sounds similar to the

    shared part.

Part B   Open-ended questions on Chinese-character learning activities

1. What types of classroom activities do you like doing the most
    and why?

2. What types of classroom activities do you like doing the least and why?

3. What types of homework do you like doing the most and why?

4. What types of hoe work do you like doing the least and why?

5. Do you like to work with other students during the class? Why or why not?

6. How many days in a week do you study new Chinese-characters at home?

7. What is the approximate time you spend on studying/writing Chinese Characters at home?

8. Do you think your Chinese-character homework is too much or too few? Why?

9. Are there other learning strategies you think that are very useful and helpful to you in acquiring Chinese characters but not listed in this questionnaire? What are they?

Part C

1. What is your first (native) language:

2. The other language(s) that you can speak is/are:

3. How long have you been studying Chinese?

4. What are your reasons for studying Chinese?

5. Can you describe in general terms your classroom experience in learning Chinese?

6. How many Chinese characters can you recognize?

7. Besides the Chinese language, have you ever learned another foreign language or languages? What are they? For how long?

8. Is any of your parents native speaker of Chinese?