CHAPTER TWO

REVIEW OF RELEVANT LITERATURE

2.1 Introduction

It has long been perceived that the Chinese language is one of the most difficult languages to learn. Many ponder over the complexities of the Chinese characters as opposed to the simplicity of the grammar or the sentence structure of the language. The Chinese language is an analytical language which is dependent on the syntax --- the word order and sentence structure (Liu, Deng, & Liu, 1997). The Chinese language has no grammatical inflections (like English) to express person, tense, gender, number and case. In many Chinese language textbooks, grammar is introduced by providing the sample sentences after a list of vocabulary has been explained. In the sample sentences, explanation is given for the use of the vocabulary. Most of the available textbooks, used by second language learners, follow the sequence of teaching the language based on the simplest sentence to the more complex structures. The basic order for a simple sentence is the subject (S) plus verb (V) followed by an object (O), in abbreviation, S+V+O, is commonly used. The grammar or the order of the sentence gets complicated when one needs to express actions that involve tenses. For instance, taking 我 (wǒ) I, as the subject; 吃 (chī) eat, as the verb; and 饭 (fàn) rice, as the object to construct sample sentences with different aspects of tenses.

1. Sample sentence for simple present tense: 我吃饭. I eat rice.
2. Sample sentence for present perfect tense: 我吃了饭. I have eaten rice
3. Sample sentence for present continuous tense: 我正在吃饭. I am in the middle of eating rice.
4. Sample sentence for simple past tense: 今天早上我吃了饭. This morning I ate rice.

Because Chinese characters cannot be conjugated like the words in an alphabetical language system such as English, the tenses in Chinese language is revealed by additional characters which are classified as the structural particles, adverbs and time words.

Some examples of structural particles are 了 (le) which indicates completion of an act (one of the uses), 过 (guò) means to have been or to indicate completion of action as an experience，and 着 (zhe) indicates the state of an action or an action in progress or stresses the tone in an imperative sentence. An example of an adverb is 正在 (zhēngzài) which carries the meaning of a progressive action 'in the middle of'. Time words are characters that carry the connotations of time, such as 今天 (jīntiān) which means today and 早上 (zǎoshang) which means morning. Therefore the time phrase, 今天早上, is used to denote the simple past tense. Other time words or time phrases such as 去年 (qùnián) which means last year is to denote the past tense, and 下个月 (xiàgeyuè) which means next month as the future tense. Those are the characters used to express concepts of time (Li, 2002; Jin, Xu, & Hargett, 2000; Chang, Mackerras, & Yu, 1999; Liu, Deng, & Liu, 1997; Yao, Chen, Bi, Wang, Shi, Liu, & Ge, 1997; Teng & Liu, 1992; Fredlein & Fredlein, 1991; etc) as equivalent of the English present or past perfect tenses as shown in the above sample sentences. Depending of which Chinese language textbooks are being used, some authors called the time words as time phrase or as nouns that refer to time.

Having read and used many other Chinese language textbooks, the researcher of this study believes that to learn the Chinese language well, one has to study and master the Chinese characters first; then learn to arrange the characters in the correct order.

2.2 Misconception of the Chinese Characters

To people who have minimal knowledge of the Chinese language, the negative and inaccurate stereotyping of Chinese language is described in the *New Standard Encyclopedia* that was published in 1940 (cited in Brown, 2000, p. 180):

> The Chinese Language is monosyllabic and uninflectional…. With a language so incapable of variation, a literature cannot be produced which possesses the qualities we look for and admire in literary works. Elegance, variety, beauty of imagery-these must all be lacking. A monotonous and wearisome language must give rise to a forced and formal literature lacking in originality and interesting in its subject matter only. Moreover, a conservative people… profoundly reverencing all that is old and formal, and hating innovation, must leave the impress of its own character upon its literature. (Volume VI)

To understand and appreciate literature in any language, one needs to acquire and master that language as well as its culture. If the Chinese language and literature were perceived as "uninflectional…, … lack of beauty of imagery…" (cited in Brown, 2000, p. 180), one should go to the world wide web and one will find many testimonials to prove otherwise.

One of the academic institutions, the University of Virginia Library, has taken the initiative to share the Chinese texts in the forms of classic and famous poems. This particular Chinese text initiative webpage was created by the University of Virginia Library and copyrighted by the rector and visitors of the University of Virginia (1997). The excerpt written on the webpage of the "300 Tang Poems" is a summary of what the Tang poems are, generally and commonly known by many. The Tang dynasty (618-907) is considered the golden age of Chinese poetry. According to this academic Chinese

text initiative (1997), the 300 Tang poems were compiled by Heng-tang-tui-shi [Sun Zhu] of the Qing Dynasty around 1763. During the ancient Chinese history, language and poetry were closely associated whereby the poetry was used as one of the subjects of literacy in the civil service examinations. Chinese children learn and recite these Tang poems in and out of school settings throughout their school life, from the basic to the more advanced and sophisticated levels of poetry, just as English speaking children would from Dr. Seuss to William Shakespeare (Chen, 2007).

Chen (2007), in the preface of his book, mentions that the "words and sounds—and the metrics by which they were bound together in poetry—awaken the mind and teach the language." He further emphasises the importance of Chinese poetry with an analogy of what Confucius said to his son: "If you do not study poetry, you will have no words"—"不学诗, 无以言". This goes without further testament the importance of poetry in the Chinese language and Chinese culture.

Li Bai is well-known as one of the greatest poets in the Tang dynasty. He was born in 701 and died in 762. His poetry writings have become common knowledge for Chinese language learners. Some examples of Li Bai's five-character ancient verse and seven-character-quatrain with the traditional Chinese characters are included for readers' own judgment on the quality of the English translation that is taken from "The Jade Mountain" by Witter Brynner (1929) cited in University Virgina Library Chinese text site (1997) (downloaded on July 9, 2008 with permission from the University Virgina Library Chinese text site).

Most of Li Bai's poems were about the good times of the Tang dynasty when Tang was at the peak of the prosperity period. Through the subtlety of the characters used in these

classic poems, Chinese language learners will have the opportunity to get a better insight of the history and message of the poets as shown in the following examples.

The first example of Li Bai's five-character ancient verse of poetry is as followed:

五言古詩
李白
春思

燕草如碧絲， 秦桑低綠枝；
當君懷歸日， 是妾斷腸時。
春風不相識， 何事入羅幃？

Five-character ancient verse
Li Bai
IN SPRING

Your grasses up north are as blue as jade,
Our mulberries here curve green-threaded branches;
And at last you think of returning home,
Now when my heart is almost broken....
O breeze of the spring, since I dare not know you,
Why part the silk curtains by my bed?

The second example of Li Bai's seven-character quatrain describes the breathtaking scenery of the Yangzi River. If Li Bai were to be alive today, one could easily imagine the strong emotions he would express in his poetry about these three gorges and its destruction by the construction of the world- renowned controversial dam.

七言絕句
李白
下江陵

朝辭白帝彩雲間， 千里江陵一日還。
兩岸猿聲啼不住， 輕舟已過萬重山。

Seven-character-quatrain
Li Bai
THROUGH THE YANGZI GORGES

From the walls of Baidi high in the coloured dawn
To Jiangling by night-fall is three hundred miles,
Yet monkeys are still calling on both banks behind me
To my boat these ten thousand mountains away

The characters used in the poems above carry metaphors and implications that readers can only comprehend by studying the historic and semantic meanings of the characters themselves. As mentioned by Aria (2001), Chinese writings are created by observing the nature, and by turning the shapes of nature into written "scripts". Although these earliest scripts undergo evolution to meet the changing needs with time, three thousand years-old texts written in Chinese characters can still be deciphered and understood today. This makes the Chinese language unique among other world languages, in terms of its preservations and the characteristics of the characters that "contain a latent poetry and provide many clues about ancient Chinese culture and thought" (Aria, 2001, p. 11).

Fortunately, such negative stereotyping does not exist in any encyclopedia anymore, but there are many who still perceive that there are no Chinese "words" but characters only. Packard (2000) professes that many believe that morphology does not exist in Chinese characters. Nevertheless, as described previously how Chinese characters can

bring out sophistication in poetry as far back as the ancient history of China, the Chinese language is definitely not just a string of words *"that cannot be produced which possesses the qualities we look for and admire in literary works"* (cited in Brown, 2000, p. 180).

2.3 Background of Chinese Characters

Unlike languages that are made up of alphabets like English, Malay, Spanish and so on, the Chinese language writing system is orthographic in nature. The script is referred to as characters and they are composed of strokes and dots which had derived from pictographs. It is estimated that there are more than 50,000 characters in total; however, only an estimation of 5,000 to 8,000 characters are commonly used (Huang & Ma, 2007; Liu, Deng, & Liu, 1997, p.18). According to historians, these characters are variants which had been collected over a long period of historical times, and many are seldom used these days. Among Chinese language educators, it has also been debated that one is considered to have full literacy of the Chinese language when he or she has mastered the average of between three to four thousand characters.

2.4 Background of Written Styles of the Chinese Characters

The present day Chinese characters were developed from pictographs which were originally carved into oracle bones and bronze ware, dating back over three thousand years ago. Over the years apparently, the shapes of the Chinese characters have undergone changes and have eventually evolved into seven written styles. These can be classified as the (1) oracle bone 甲骨文, (2) bronze ware 钟鼎文, (3) seal 篆书, (4) clerical or official 隶书, (5) regular 楷书, (6) semi-cursive or running 行书, and (7) cursive or grass scripts 草书 (Wikipedia, 2008; Wu, 2007; Huang, 1998; Liu, Deng, & Liu, 1997). The oldest script that is being used until today is the seal script 篆书

(zhuànshū), which is for name stamping purposes. Other commonly used scripts are clerical or official scripts 隶书 (lìshū) that may be further divided into Qin and Han styles. The regular script 楷书 (kǎishū) is divided into Wei and Tang scripts. The stone inscriptions carved upon the grave stones that are found in Northern Wei, bear the style of the Weibei script 魏碑 (wèibēi); whereas the regular script 楷书 that was used during the Tang dynasty is now commonly used for printing media. The semi-cursive or running script 行书 (xíngshū) is used for handwriting practices while the cursive script 草书 (cǎoshū) which literally means grass script, is more for artistic calligraphy (Wikipedia, 2008; Huang, 1998; Liu, Deng, & Liu, 1997). It is not easy for the untrained eye to recognise the artistic calligraphy of the cursive script. Until the process of character simplification took place in the 1950s (Liu, Deng, & Liu, 1997), all the seven styles described above were in the traditional form.

The written style for all the simplified Chinese characters used in this study is the regular script 楷书 that shows the strokes clearly and they can be identified more readily. Table 2.1 provides some examples of the different written styles of the Chinese characters except the bronze ware script which is very similar to the oracle bone script (Yang & Zhu, 1997).

Table 2.1
The different written styles of Chinese characters

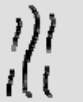
Oracle Bone Script	Seal Script	Clerical Script	Semi-Cursive Script	Cursive Script	Regular Script (Traditional)	Regular Script (Simplified)	Pinyin	Meaning
						—	rì	Sun
						—	yuè	Moon
						—	shān	Mountain
						—	shuǐ	Water
						—	yǔ	Rain
						—	mù	Wood
						—	hé	Millet
						—	rén	Human
						—	nǚ	Woman
						—	mǔ	Mother
						—	mù	Eye
						—	niú	Ox
						—	yáng	Sheep
							mǎ	Horse

Table 2.1, continued
The different written styles of Chinese characters

							niǎo	Bird
							guī	Tortoise
							lóng	Chinese Dragon
							fèng	Chinese Phoenix

Downloaded from the Wikipedia website (June 2008).

2.5 Development of the Chinese Characters from Traditional to Simple

In the development of the Chinese historical linguistics, traditional characters were formed from pictographs. Based on the formations of the strokes in the Chinese characters, a Chinese linguist, Xu Shen 许慎 (Wu, 2007; Yang & Zhu, 1997), who created an etymological dictionary called *Shuōwén Jiězì* (说文解字) divided the Chinese characters into six categories called the *liùshū* (六书).

The six categories of the Chinese characters, *liùshū* (六书), are (1) pictograms 象形字 (xiàngxíngzì) which are derived from the shapes of concrete objects; (2) pictophonetics 形声字 (xíng-shēngzì) which are characters that contain both the picture (gives meaning) and the pronunciation (phonetic) parts; (3) ideograph 指事字 (zhǐshìzì) which are characters formed from adding strokes to the original characters for abstract concepts; (4) logical aggregates 会意字 (Huìyìzì) which are slightly different from the ideographic characters. One can understand a logical aggregate character by looking at the base character or the original character and its associated different characters; (5) associate transformation 转注字 (zhuǎnzhùzì) which are very rare due to the change of

the original use of the characters; and (6) loan homonyms 假借字 (Jiǎjièzì) which are characters that have been borrowed for use of different meanings, based on the similar pronunciation.

Due to the massive character simplification process, *liùshū*（六书）was further developed into *shíshū*（十书）by Yang & Zhu (Yang & Zhu, 2005; Yang & Zhu, 1997; Yang & Zhu, 1996) to supplement the inadequacies of the six classifications of the scripts to become ten categories.

Yang and Zhu (1996) had to reclassify the modern simplified characters systematically and scientifically through the new written forms of the simplified characters. The additional four categories supplements include (1) semantic 存意字 (cúnyìzì) characters whose semantic components are retained after the simplification process; (2) phonetic 存音字 (cúnyīnzì) characters which are simplified characters that still maintain the phonetic component; (3) strokecluster 部件字 (bújiànzì) characters which only maintain certain parts of the radicals of the original traditional characters; and (4) strokes 笔画字 (bihuàzì) which are characters that are formed from simple strokes of the original character. The above English equivalents of the four additional categories are translated based on the description in the etymological dictionary *Xiàndài Shu*ōw*én Jiězì* (现代说文解字) that was published by Yang and Zhu (1997).

By understanding the linguistic development of the characters from ancient traditional to the modern simplified forms, learners of the Chinese language may find it easier to master the characters in such systematic ways. The section below gives a detailed description of these ten categories of modern simplified Chinese characters.

The ten categories of modern simplified Chinese characters:

2.5.1 Pictograms (象形字, xiàngxíngzì)

Pictograms are also known as pictographs. Characters of this category are derived from pictures of nature and real objects. Some examples of pictograms include 山 (shān) for mountain, 人 (rén) for person or people, 石 (shí) for rock, and 马 (mǎ) for horse (refer to Table 2.1, p.16-17).

Xu Shen 许慎 estimated that 4% of the characters fall into this category. This type of characters are categorised as the most commonly used, and many of them become radicals of other characters. If learners of Chinese are aware of such characteristics of pictograms, they may find it easier to memorise pictographic characters.

2.5.2 Pictophonetics (形声字, xíng-shēngzì)

The largest group of characters in modern Chinese are the pictophonetics, which are also named as semantic-phonetic characters. These kinds of characters are made up of two components: (1) a pictograph, also named as the radical, which depicts the general meaning of the character, and (2) a phonetic part that gives the pronunciation of the new character. Some examples are given in Table 2.2.

Table 2.2
Some examples of pictophonetics that consist of radical 口（kǒu）and several phonetic components that are also independent characters.

Phonetic / Radical	乞 (qǐ)	曷 (hé)	昌 (chāng)	土 (tǔ)	少 (shǎo)	分 (fēn)	付 (fù)	觜 (zuǐ)
口（kǒu）	吃 (chī)	喝 (hē)	唱 (chàng)	吐 (tù)	吵 (chǎo)	吩 (fēn)	咐 (fù)	嘴 (zuǐ)

The pictophonetic characters 吃 (chī) which means eat, 喝 (hē) drink, 唱 (chàng) sing, 吐 (tù) vomit, 吵 (chǎo) make noise, 吩 (fēn) 咐 (fù) both mean to instruct, and 嘴 (zuǐ) mouth are some of the many examples. All these characters have on the left, a radical of 口（kǒu）mouth, indicating that the character has a semantic connection with mouth; the right component in each case is a phonetic indicator. For example, in the case of 吃 (chī), the phonetic indicator is 乞 (qǐ), which by itself means to beg for something. In this case, it can be seen that the pronunciation of the character has diverged from that of its phonetic indicator. This process suggests that the composition of such characters can sometimes seem arbitrary today. Another example like 喝 (hē), shows that the phonetic indicator is 曷 (hé) which does not deviate much from the original pronunciation except with the change of tones from second to first. Detailed explanations of the tones and tone marks are provided in the phonology section (refer to section 2.6, p. 25 - 30).

Xu Shen 许慎 placed approximately 82% of characters into this category, while in the Kangxi Dictionary (Wikipedia, 2008) the number is closer to 90%, due to the extremely productive use of this technique to extend the Chinese vocabulary. Nonetheless, according to many researches in the field of Chinese language studies in the recent years, about 79% of the characters can be distinguished as such. Of that only "39% of the semantic-phonetic compound characters are completely regular in the sense of having exactly the same pronunciation as their phonetic components" (Perfetti & Tan, 1999, cited in Tan, Spinks, Feng, Siok, Perfetti, Xiong, Fox, & Gao, 2003; Chan & Siegel, 2001; Zhou, 1978, cited in Ku & Anderson, 2001, p. 252-253). From the various sources that discuss the formation of Chinese characters, it is generalised that pictophonetics is the biggest and most useful group of all. Hence, it is believed that

learners of the Chinese language may find this group of characters easier to decode, and may benefit most through learning this category of characters.

2.5.3 Ideographs (指事字, zhǐshìzì)

Characters of ideograph or ideogram characteristics can either add indicators to pictographs to make new meanings, or illustrate abstract concepts directly. For instance, while 刀 (dāo) is a pictogram for "knife", placing an indicator in the knife makes 刃 (rèn), an ideogram for "blade". Other common examples are 上 (shàng) for "up" and 下 (xià) for "down". This category is small, as most concepts can be represented by characters in other categories. Due to such an abstract and irregular characteristic of this category of Chinese characters, learners may find this group of characters hardest to memorise. Nonetheless, in order to learn and master ideographic characters, rote learning and memorisation might be the only way to do so.

2.5.4 Logical Aggregates (会意字, Huìyìzì)

Logical aggregates type of characters is formed by combining two or three different characters to create a different character with an associative meaning or concept as the original character. For instance, 木 (mù) is a pictogram of a tree, and putting two 木 together makes 林 (lín), meaning forest; adding another 木 (mù) to 林 (lín) formulates 森 (sén) that means dense forest. Another example of logical aggregates is the combination of characters 日 (rì) sun and 月 (yuè) moon that makes 明 (míng) bright, which symbolizes the natural sources of light of the sun and the moon. Xu Shen 许慎 estimated that 13% of the Chinese characters belong to this category. However, interpretations of the original meanings of the thousand years old characters differ greatly from one source to another. If learners are able to differentiate the logical

aggregates from the pictophonetic characters, they will most likely find that Chinese characters may not be that difficult to master.

2.5.5 Associate Transformation (转注字, Zhuǎnzhùzì)

Characters in this category are rare. Second language learners may not need to know much about this type of characters. The original meaning and the form of this type of characters have been altered to give two separate characters with two different meanings. For instance, both 考 (kǎo) and 老 (lǎo) were to mean old, according to the shapes shown in the oracle bone and the bronze ware. However, according to the etymological dictionary *Xiàndài Shuōwén Jiězì* (现代说文解字) those two characters are now classified into two independent words 考 (kǎo) which means to test or to verify and 老 (lǎo) to mean old. In the modern Chinese system, this group of characters is seldom found and most of the time, it is found to have combined with other characters to become separate meanings.

2.5.6 Loan Homonyms (假借字, Jiǎjièzì)

When an existing character is borrowed to represent an unrelated character with similar pronunciation, sometimes the old meaning is totally lost. Examples of such characters are 自 (zì), which has lost its original meaning of nose but is now exclusively used to mean oneself, or 万 (wàn), which traditionally meant scorpion but is now used to denote ten thousand (Yang & Zhu, 1997, 1996).

According to Yang and Zhu (1997), as a consequence of the characters simplification process, four extra categories of the newly-formed simplified characters were added to Xu Shen's 许慎 *liùshū* to form the *shíshū*. The following four categories of English

terms are the researcher's translations based on the descriptions found in the etymological dictionary *Xiàndài Shuōwén Jiězì* (现代说文解字).

2.5.7 Semantics (存意字, cúnyìzì)

These are the characters that do not fit into any of the six categories above where the semantic component of the character is maintained but the phonetic part is no longer in use due to the character simplification process. For example, the character 观 (觀 traditional or complex) that means to see, has the semantic component of 见 (見), which also means to see. The phonetic component in the traditional form is 雚 (guān) which carries the same pronunciation of 觀 (guān) but this has been simplified to become 又 (yòu). Yang (1997) classifies this type of characters that has lost the phonetic purpose of the original component but which maintains its meaning as semantics. Learners may find this category of characters confusing if the traditional form is not taught. Hence, some Chinese language educators feel that both the traditional and the simplified forms of the characters should be taught simultaneously.

2.5.8 Phonetics (存音字, cúnyīnzì)

Contrary to the semantic characters, phonetic characters are those that maintain the sound component after the simplification process. For instance, the traditional character "憲" (xiàn) has been simplified to 宪 (xiàn) which carries the meaning of legislation. To have both the traditional and simplified characters maintain the same pronunciation (xiàn), the traditional form has been simplified but still possesses the phonetic component of 先 (xiān).

2.5.9 Strokeclusters (部件字, bújiànzì)

After the simplification process, the traditional character of 歸 has become 归 (guī) which means to return. This simplified character 归 was formed with parts of detectable strokes such as リ and ヨ, and it does not have any obvious semantic or phonetic component. Such kind of simplified characters are called strokeclusters. Learners may have to resort to mere memorisation of such category of characters.

2.5.10 Strokes (笔画字, bíhuàzì)

Subsequent to the simplification process, some traditional characters have been simplified through the deletion of parts of the characters. New simplified characters are generally derived from one part of the strokes. This newly simplified character is called strokes character. For instance, the traditional form 鄉 which means hometown, is now simplified to become 乡 (xiāng).

Having completed the *shíshū*, both Yang and Zhu (1996) began teaching Chinese characters to their primary school pupils according to the categorisation as described in the *shíshū*. Xu Fu, a friend of Yang and Zhu, claims that by using the *shíshū* categorisation and the morphology of the characters, Yang and Zhu's pupils were able to master the characters without errors (Yang & Zhu, 1997).

Most of the examples of the Chinese characters provided in this study are from the pictophonetic category which is said to constitute the biggest group of all the characters. If learners could remember the different components of the characters after learning them, the aspiration to learn more characters and vocabularies may be enhanced. The

more characters learners master, the easier for the learners to decode new vocabularies for meanings in reading unfamiliar Chinese texts.

2.6 Phonology of the Chinese Characters

Phonology describes the way sounds function within a given language. A phoneme is a single sound. In the Chinese language, the phonemic transcription is comprised of two types of symbols, namely the traditional "zhuyinfuhao" and the new Romanized "Hanyu pinyin". Zhuyinfuhao is also termed as "Bopomofo" by other researchers in the study of Chinese characters.

Depending on the written form of the Chinese characters, learners learn the phonological script according to either the traditional zhuyinfuhao or the Romanized Hanyu pinyin. It is general perception that it is easier to learn the simplified Chinese characters with the Hanyu pinyin. Since the adoption of the simplified Chinese characters in the 1950s, the Chinese people from mainland China are proficient in the Hanyu pinyin only (Liu, Deng, & Liu, 1997). For the purpose of this study, Hanyu pinyin is used because the learners are learning the simplified Chinese characters. Traditional characters are sparingly used to explain the categorisation of the particular characters when needed. The researcher defines phonology awareness as the amount of knowledge learners have about the pronunciation system in Chinese language.

2.6.1 Zhuyinfuhao (Bopomofo)

Traditionally the phonological script for the pronunciation of the traditional Chinese characters is comprised of symbols as shown in Table 2.3.

Table 2.3

Zhuyinfuhao (Bopomofo) script for traditional phonology (NationMaster-encyclopedia, 2008).

ㄅ	ㄆ	ㄇ	ㄈ	ㄉ	ㄊ	ㄋ	ㄌ	ㄍ	ㄎ	ㄏ	ㄐ	ㄑ	ㄒ	ㄓ	ㄔ	ㄕ	ㄖ	ㄗ	ㄘ	ㄙ
ㄧ	ㄨ	ㄩ	ㄚ	ㄛ	ㄜ	ㄝ	ㄞ	ㄟ	ㄠ	ㄡ	ㄢ	ㄣ	ㄤ	ㄥ	ㄦ					

Some examples of the phonetic transcript are as below:

Traditional character 鄉 is represented phonetically as (ㄒㄧㄤ)

Traditional character 憲 is represented phonetically as (ㄒㄧㄢˋ)

Children from Taiwan and Hong Kong are still using Zhuyinfuhao to pronounce the complex characters (Huang and Hanley, 1995) while most Chinese speaking communities in other parts of the globe have adopted the Romanized Hanyu Pinyin system which has adopted the English alphabets.

2.6.2 Hanyu Pinyin

A Chinese character is a syllable. Hanyu pinyin is the Romanized pronunciation system designed and adopted at the First Plenary Session of the First National People's Congress of the People's Republic of China on February 21, 1958 (Liu, Deng, & Liu, 1997). It replaces the traditional zhuyinfuhao (Bopomofo) pronunciation system with Latin alphabet and was modified to accommodate the uniqueness of the Chinese language. There are four tones, namely first (-), second (/), third (v) and forth (\), including a neutral tone, for the complete pronunciation of the characters. For example, 言 (yán) has the meaning of language. (yan) is the pinyin script and (/) is the second tone which is placed above the vowel "a".

Today China and many Chinese speaking countries use Pinyin as the pronunciation system and the simplified characters as the writing system, except for Taiwan and Hong Kong.

In the Romanized Hanyu Pinyin, the smallest units of sounds are called initials and finals for simplified Chinese characters. There are twenty three initials and thirty eight finals (Liu, Deng, & Liu, 1997). The initials are the equivalent consonants of the English alphabet while the finals are the equivalent vowels.

Initials or consonants are very similar to English contoids in terms of graphemes and phonemes (Baskaran, 2005) with some distinctive exceptions in Chinese. For example, in Chinese, there is only one sound for "g" /g/, whereas in English there are two, /g/ and /dʒ/. An example of /g/ for the Chinese character 哥 is (gē) which means older brother.

There are six other initials in Chinese that are pronounced differently from English. They are "c", "j", "q", "x", "z", and "zh". Referring to Table 2.4, there is no "v" sound in Chinese. In Hanyu Pinyin "w" replaces the "v" sound in English. Therefore, the Chinese pronunciation for vocabulary borrowed from English such as "vitamin", 维他命, is pronounced as (wéitāmìng).

Finals are divided into simple finals, compound finals, and nasal finals which end with nasal consonants (Liu, Deng, & Liu, 1997). Simple finals are single vowels similar to the English vowels of "a", "o", "e", "i", "u" but with an addition of the Chinese final "ü". One example of Chinese character that uses "ü" is 鱼 (yü) which means fish. Compound finals which contain more than one final, are usually compounded with two

or three finals. For example of a character which carries compound finals is 猫 (māo) which means cat. Nasal finals are finals that possess endings of nasal consonants. An example of a character that possesses nasal final is 熊 (xióng) which means bear. The groupings of the initials, simple finals, compound finals and nasal finals are shown in Table 2.4.

Table 2.4
The Initials and the Finals in Hanyu Pinyin (Liu, Deng, & Liu, 1997).

Initials	b	p	m	f	d	t	n	l	k	r	s	w
	y	h	sh	ch	g	c	j	q	x	z	zh	
Simple Finals	a		o		**e**		i		u		ü	
Compound Finals	ao		ai		ui		ei		er		ou	**i**u
	ie		üe		ia		ua		uo		iao	uai
Nasal Finals	an	ang		en	eng		in	ing		ong		un
	ü**n**	üan		ian	iang		iong	uan		uang		ueng

Second language learners are handicapped in the phonological aspect of the Chinese language compared to native speakers. Hence, second language learners need to learn to pronounce the Chinese characters as well as to write the characters simultaneously. A study which looked at the associations of phonological awareness and morphological structure awareness with vocabulary and word recognition in second graders across four cultures from Beijing, Hong Kong, Korea and the United States concluded that phonological awareness seems to be a good predictor only for early reading in Chinese (McBride-Chang, Cheuk, Cho, Wagner, Muse, Liu, Shu, and Zhou, 2005).

Pronunciation of the Chinese characters may pose as challenges to second language learners who are unfamiliar with tonal language like Chinese. The Chinese language is

said to be a tonal language due to the fact that each character comes with a tone. A more detailed description of the tones and tone marks are given below.

2.6.3 Tones and tone marks

Many second language learners have indicated that learning the Chinese language is harder than the English language because of the tones involved. There are four tones. The tone system includes a neutral tone that does not have any symbol. The tone marks are represented as **-, /, v** and \ respectively. The rule of thumb is to place the tone marks directly above the finals. For example, 哥 (gē) carries the first tone mark (-) which is placed above "e" while the third tone mark (v) is placed above "i" with the omission of the dot on "i" as in 你 (nǐ).

In the case of the compound finals, the tone mark is placed on the main final. The main final is the one that needs to be pronounced with the mouth open at the widest. For instance, 好 (hǎo) carries the third tone mark (v) which is placed directly above "a" since the final "a" needed to be pronounced with the mouth open wider than the final "o". However, when both characters of the third tones are combined as in the phrase 你好 (nǐhǎo), the first character 你 (nǐ) has to be changed from third to second tone. Hence, the correct pronunciation for the phrase 你好 becomes (níhǎo) which means "hello". Consequently, phrases within this type of change of tones create confusion amongst second language learners.

For the purpose of this study, the emphasis is placed on the process of recognising and understanding the Chinese characters or vocabularies whilst reading Chinese texts. Nonetheless, learners are encouraged to pronounce new characters by looking at the phonetic component. Likewise, they are also encouraged to guess the meanings of any

new characters or vocabulary by investigating the semantic components of the new characters or vocabulary.

2.7 Morphology of Chinese Characters

Morphology studies the patterns of word-formation within a language, so as to formulate rules that model the knowledge of the speakers of the language (Packard, 1998). Although many linguistic researchers have different opinion on the definition of Chinese "word" as opposed to Chinese "character", Packard (2000) believes that the morphology of Chinese characters is not only somewhat similar to the English morphology, but also has a different morphological system. He says that the morphology of the Chinese character is performed by mapping the different parts of a character to form a new character. Depending on the function of the characters, Chinese morphology also includes formation of vocabularies (Packard, 2000).

In modern standard Chinese simplified characters, the uniqueness of the Chinese characters is based on the components of the strokes in the characters. For instance, majority of the characters which belong to the pictophonetic 形声字 category are made up of two components. These two components may include three different combinations such as, (1) left-right structure (左右结构), with left component as the radical which gives meaning to the character, while the right component as the phonetic aspect that provides the pronunciation of the character 左形右声, or vice-versa 右形左声; (2) top-bottom structure (上下结构), with the top component as the radical while the bottom part as the phonetic component 上形下声, or vice-versa 下形上声; and (3) outside-inside structure (里外结构), with the outside component as the radical while the inside component as the phonetic indicator 里形外声, or vice-versa 外形里声.

Examples of the three combinations of semantic and phonetic components in pictophonetics are provided in Table 2.5.

Table 2.5
Examples of Pictophonetics in 3 Combinations

semantic and phonetic components	左右结构 left-right		上下结构 top-bottom		里外结构 outside-inside	
	左形右声 left-semantic right-phonetic	右形左声 right-semantic left-phonetic	上形下声 top-semantic bot-phonetic	下形上声 bot-semantic top-phonetic	里形外声 in-semantic out-phonetic	外形里声 out-semantic in-phonetic
Example	拥	功	界	婆	闷	固

In order to help the second language learners of this study acquire as many topical vocabularies as possible, in due course, the morphological features of the Chinese characters are emphasised. The researcher of this study believes that by providing more information on the morphological features of the Chinese characters, participants' awareness in the morphology of Chinese characters may be raised to help in decoding unfamiliar lexical items. Out of the ten categories of the modern simplified Chinese characters, second language learners may find pictophonetic characters easier to identify and to learn. Similarly, second language learners may find the pictographic characters, which are symbolic of natural landscape and objects, less problematic to identify and to acquire. The major problem is probably in the difficulty of memorising the many pictographic and pictophonetic characters within a limited time, as compared to native speakers who have already mastered the phonological aspect of the Chinese language. Nonetheless, it is believed that the morphological process of Chinese characters may help second language learners acquire vocabularies for reading and understanding unfamiliar Chinese texts of various topical contents.

Using the unique characteristics of the Chinese characters, some lexical compounds are formed by combining characters that possess the same radical parts (semantic). For instance, 日（rì）which means the sun, 月（yuè）moon or month, 火（huǒ）fire, 水（shuǐ）water, and 木 (mù) trees, are composed of basic strokes and are considered independent basic characters. This means that they cannot be separated any further, but they may be used as radicals. Using 日（rì）as an example of a radical, it can be seen that when 日 (rì) is combined with another independent character, 青 (qīng) which acts as the phonetic component, a new character 晴 (qíng), is formed. This new character 晴 (qíng) means fine, clear. Further morphological process can also take place when a different character is added on to it to become a compound word. For example, if 天 (tiān), which means day or sky, is added to 晴, then a new compound word 晴天 (qíngtiān) which means sunny day is formed.

Another form of morphology can occur when two or more of the independent characters are combined among themselves as well as with others. This then leads to being another character formed. For example, the character 日, when combined with 月 becomes 明（míng）, which carries the meaning of bright. Further morphological process can transpire when a different character is added on to 明（míng） as a compound word. For example 明亮 （míngliàng）which means brightness, is created by combining 明 and 亮. This is the uniqueness of the Chinese Language, which other languages do not have.

Therefore, morphological structure awareness in Chinese involves lexical compounding (McBride-Chang, Shu, Zhou, Wat, and Wagner, 2003; Zhou, Marslen-Wilson, Taft, & Shu, 1999). By understanding the morphological process of the Chinese characters as

argued by Jing-Schmidt (2007c) in her cognitive description of the Chinese writing system, it is believed that second language learners may find it useful as a strategy for learning and remembering the Chinese characters and their related vocabulary.

2.8 Previous Studies on Phonology and Morphology of Characters

The complex but unique characteristics of Chinese characters have attracted the attention of researchers from different fields such as psychology, neurology, education, psycholinguistics and linguistics. Many researches are done on the association of phonological and morphological awareness of Chinese characters in reading in recent years (Guo, Peng & Liu, 2005; Tsai, Lee. Tzeng, Hung & Yen, 2004; Chan & Siegel, 2001; Spinks, Liu, Perfetti & Tan, 2000). However, many of these studies are based on the young as well as adult native speakers of Chinese. The findings of these studies suggest that phonological codes play a significant role in the process of recognising and retrieving semantic memory from Chinese characters (ibid).

Researches which study how non-native speakers link between phonological and morphological awareness in Chinese characters, are rare. One study (Jin, 2006) that dealt with the recognition of Chinese characters by second language adult learners of Chinese alleges that the participants perform best on the radical information component. Another study (Liu, Wang, & Perfetti, 2005) claims that adult second language learners at an American university, can acquire the knowledge of functional orthographic representations of the Chinese characters after one year of learning. It is believed that no study has been conducted on secondary school students learning Chinese language as a second language in the South East Asian region. This study attempts to replicate those studies which claim that the unique characteristics of the Chinese characters help learners to recognise and memorise the characters.

The findings of these researchers relate well with Chomsky's innatist theory of first language (L1) acquisition where all children regardless of cultures acquire their L1 through the same milestones in the stages of language acquisition process (Baskaran, 2005; MacWinney, 2004). Following the L1 acquisition process, the sequence of language skills are recognised as listening, speaking, reading and writing for the instruction of second language (L2) in classroom.

Native speakers of Chinese are naturally fluent in the language, long before they begin formal education in schools. They only need to learn the orthographic forms of the characters (Liu, Wang, Perfetti, 2005; McBride-Chang, Cheuk, Cho, Wagner, Muse, Liu, Shu, & Zhou, 2005; Tan, Spinks, Eden, Perfetti, & Siok, 2005; Nagy, Kuo-Kealoha, Wu, Li, Anderson, & Chen, 2002) in school. Second language learners, on the contrary, need to learn both the phonology and morphology structures of the characters concurrently, whilst following the process of listening, speaking, reading and writing.

When knowledge of the orthographic form of the characters has been acquired, and the understanding can lead to lexical compounding which in turn, brings about more vocabulary, it is anticipated that the learners will have been equipped to handle texts of various topics. The lexical processing strategies (LPSs; ignore, consult, infer) as proposed by Fraser (1999) may be an effective way to increase the vocabulary bank of second language learners while reading texts of various topics in Chinese language.

2.9 Studies of Lexical Processing Strategies and Incidental Learning

Lexical processing strategies (LPSs) are methods by which second language learners use so as to decode unknown words while reading English texts (Fraser, 1999). According to Fraser (1999), lexical processing strategies consist of ignore, consult and

infer. Ignoring or skipping new words while reading is a strategy which some readers use when they do not know the meaning of new words. Other readers might consult another person or a dictionary when they come across unknown words while reading. Making inferences from the contextual cues is another strategy which some readers use when they are faced with deciphering unfamiliar words in reading texts. These types of strategies may be useful for second language learners of Chinese in decoding unfamiliar Chinese characters while reading Chinese texts. The researcher of this study attempts to use LPSs as some of the reading strategies which could enlighten reading Chinese texts.

Fraser (1999) had investigated lexical processing strategies used by L2 learners when they came across unfamiliar vocabulary in reading English texts. The study further looked at the impact of such strategies on vocabulary learning and retention. The eight participants of the study were Francophone university students, who were registered in an intermediate level of English as a Second Language (ESL) course called "Academic Foundations". The test battery used was the Science & Technology section of *The Economist* and the texts were 1000-1200 words long.

The results from the study support the notion of vocabulary growth by incidental learning of word meanings. It also provides some insight into the lexical processing strategies which the L2 learners used when faced with unknown words which could impinge on vocabulary learning. The study also shows that lexical processing strategies may not have an impact on the learning of vocabulary, but it has a significant consequence in reducing the rate of ignoring unfamiliar words whilst increasing the quality of inferences, as well as consulting.

One seemingly trivial but important aspect of L2 learning is the correct use of dictionary. Fraser (1999) advocates that consulting a dictionary improves the vocabulary learning and reading comprehension skills for L2 learners (Luppescu & day, 1993 cited in Fraser 1999; Knight, 1994). Fraser (1999) further suggests that L2 learners will benefit from instructions that focus on developing strategies for the acquisition of vocabulary through reading.

The researcher of the current study assumes that these lexical processing strategies of ignore, consult and infer may enable the participants to read Chinese texts with more ease, and also in their learning of more vocabulary. It is hoped that with sufficient knowledge of the Chinese characters and also their lexical compounds, the participants would know what vocabularies to ignore, consult or infer whilst reading an unfamiliar text. For instance, names of people or places in Chinese characters can be very random, especially if they are being translated from other languages. Hence, the participants of this study are encouraged to "consult" contextual cues such as title of the text, illustrations in the text, sentences before and after the unknown characters, and to apply prior knowledge of the context so as to make intelligent guesses of the semantics of those unknown vocabularies. It is anticipated that with such strategies, participants are able to make respective decisions of "ignoring" the unknown vocabulary, or to guess the meanings of the unfamiliar vocabularies through inferences.

Incidental learning of word meanings is defined as the acquisition of new words by leisure reading, without classroom instruction. As stated by Fraser (1999) there is a general consensus that some incidental L2 vocabulary learning takes place in reading. Numerous studies have proven that there is an increase in vocabulary repertoire in incidental learning (Pitts, White, & Krashen, 1989; Huckin & Bloch, 1993; Paribakht &

Wesche, 1993, 1997 cited in Fraser 1999) including reading Chinese characters (Ku & Anderson, 2001).

Ku and Anderson (2001) engaged 241 Taiwanese fourth graders from two schools to investigate the effects of meta-linguistic awareness and the morphological awareness of Chinese characters on children's incidental learning of word meanings whilst reading. The children were randomly asked to read one of the two Chinese texts provided, and then their knowledge of the foreign characters from both texts was assessed. According to Ku and Anderson, meta-linguistic awareness refers to the children's attributes which includes quartile rank in class, general vocabulary, and prior knowledge; whereas morphological awareness refers to the children's knowledge of the Chinese characters which consists of radical helpfulness, phonetic regularity, and contextual support.

In Ku and Anderson's (2001) study, the test battery comprised of a radical awareness test, a phonetic awareness test, a checklist vocabulary test, 2 narrative texts and a multiple-choice test.

The radical awareness test contained 50 target characters extracted from the textbooks used in the reading class. Twenty-five of these characters had been introduced to the children, and the other 25 characters, assumed to be unfamiliar, were selected from textbooks one or two grades levels above the children's grade. Amongst these 50 target characters, 10 consisted of characters with frequently used radicals (e.g. 水, 心, 木), another 10 were characters with infrequently used radicals (e.g.衣, 貝, 車), and the remaining 5 were characters with very infrequently used radicals (e.g. 鬼, 魚, 鳥). These target characters were then compiled into 50 two-character words. Each word contained one target and one non-target character.

The phonetic awareness test was made up of 115 characters. It consisted of 50 characters which were considered familiar, and the remaining of 65 characters which were classified as unfamiliar, to the children. The children had to write down the pronunciation of each of the characters in Zhuyinfuhao.

The checklist vocabulary test consisted of 174 items which included 64 target words, 20 non-target words, 30 general words, 30 non-words (random combination of 2 characters that did not make sense), and 30 pseudo words. Children were instructed to indicate if they knew the meanings of the items. Their responses to the target characters were used as an index of their prior knowledge.

The two narrative texts selected contained 1513 and 1567 characters respectively. Each text consisted of 32 target characters. The multiple-choice test consisted of 64 items. Each item contained one target word from each of the narratives.

In Ku and Anderson's (2001) study, two test sessions were conducted on different days. The first test session covered radical awareness, phonetic awareness, and checklist vocabulary tests. The second test session was the multiple-choice test administered after the children had finished reading one of the two narrative texts.

The outcome of the study suggests that children were able to learn the meanings of unfamiliar characters from context, during normal reading without any instruction given. Children, who appeared to possess higher phonological and morphological awareness, were also found to understand more unfamiliar vocabulary.

The current study attempts to duplicate Ku and Anderson's investigation by conducting a study on participants who are second language learners. In it also attempts to use a slightly modified methodology and materials. This is further explained in Chapter 3.

2.10 Study of Second Language Reading Strategies

What strategies do readers use in reading their native language? Are the strategies different when they read in a second language? Through the personal experiences of reading Chinese as L1 and reading English as L2, the researcher of this study believes that some of the reading strategies are transferable from L1 to L2 and vice versa.

Kong (2006) had conducted a study which looks at the strategies used by four Chinese adults in reading Chinese as L1 and English as L2 texts. She presented her discussion into two types of strategies, text-initiated and reader-initiated strategies. Text-initiated strategies involve "focusing on vocabulary, using text structure, summarising, and utilizing pictures"; whereas reader-initiated strategies include evoking schema or "prior knowledge, predicting, evaluating, monitoring and translating" (Kong, 2006). Kong states that her participants read the Chinese text effortlessly but had used more strategies in reading the English text. They appeared to focus more on the meanings of the words in English text but they focused more on reading comprehension in Chinese text. The level of proficiency in L2 also seems to play an important role in the top-down strategies (comprehension as a whole) as compared to the bottom-up strategies (word meanings). The higher the proficiency level, the more successful is the use of top-down strategies. The lower the level of proficiency, the more likely it is to be wedged within the bottom-up strategies.

Using Kong's findings, the researcher of the current study attempts to unveil the types of reading strategies participants had used in their reading comprehension exercises. It is anticipated that being second language learners of the Chinese language, the participants would demonstrate either top-down or bottom-up strategies in reading Chinese texts, depending on their level of proficiency. For the purpose of this study, the researcher also envisaged that the participants would use the top-down strategies more than the bottom-up strategies for the reading comprehension exercises. In other words, the participants are required to attain as many vocabularies as possible so that they would not rely solely on word meanings (bottom-up strategies). Evidently, to attain a high level of proficiency of the Chinese language, the participants need to acquire between three to four thousand characters. Therefore, second language learners of the Chinese language are anticipated to have learnt and mastered the basic Chinese characters prior to their learning of vocabularies by topics. A detailed procedure for the participants to create their repertoire of vocabulary is explained in Chapter 3.

2.11 Conclusion

This chapter has provided the literature review from the common perception of the Chinese language as a difficult language to learn, to the evolution of the Chinese characters as well as their classifications. The literature review has also presented information found in previous studies on the phonology and morphology of the Chinese characters, vocabulary growth through lexical processing strategies and incidental learning, on top of the reading strategies in L1 and L2 texts.

According to Yang and Zhu (1997), many teachers and learners of the Chinese language (Chen, 2007) in the traditional way of learning vocabulary, was by mere memorisation of characters. It was a difficult and a painful process for native and non

native speakers of Chinese alike. Then, Yang and Zhu (1997) spent over 30 years to research on a more effective and scientific way to learn and acquire Chinese characters, and they seemed to have done it successfully by extending Xu Shen's *liùshū* to *shíshū.* They published an etymological dictionary on how to teach Chinese characters by using phonology and morphology of Chinese characters called *Xiandai Shuowen Jiezi* (现代说文解字). This method was reported to be successful in the 1960s. In the experiment which they carried out with primary pupils, it was found that by the time the pupils reached the second grade, they were able to recognise 2500 characters. Furthermore, it was claimed that the same pupils did not make any mistakes in reading and writing those characters when they were in the sixth grade (Yang & Zhu, 1996). Since then, many Chinese language teachers have been using the same method to teach their students in memorising the Chinese characters. However, results have not been forth coming.

Memorising and recognising the Chinese characters in isolation may not be useful for the participants of this study. The purpose of this study is to ease the participants in reading unfamiliar Chinese text by focusing on the morphological and phonological awareness of the Chinese characters. The proposed method of raising awareness of the morphology and the phonology of the Chinese characters is through introducing individual characters by emphasising the categorisation of the modern simplified characters. The pictophonetic characters, which are also known as the semantic-phonetic characters, belong to the largest group of the categorisation. It might be useful for the learners to guess the meanings of the individual characters by referring to the radical component. Likewise, the phonetic component of the same characters would also help learners pronounce the characters in spoken language. The acquiring of more

vocabularies depends on the formation of lexical compounds which the participants of this study are encouraged to work on by creating their own vocabulary repertoire.

It is anticipated that after sharing reading strategies acquired with the knowledge of the distinctive characteristics of the Chinese characters, the participants would find the study helpful in their handling of the comprehension tests later.