

Chapter 1

Historical Perspectives on Chinese Written Language and Literacy Education in China

Liqing Tao and Gaoyin Qian

1.1 Introduction

Chinese as a written language has a long history. The earliest existing evidence of written records dates back to the Shang Dynasty (about 1700–1050 BC) with archaic Chinese characters carved on tortoise shells or ox scapulae (Bai 1982). These carvings are usually referred to as oracle bone characters and were mainly used in divination for royal families and for state affairs. Since then, Chinese characters as a writing system have undergone several major changes in configuration and styles, but most of them have retained their logographic/ideographic orthography (Qiu 2009; Weiger 1965). Therefore, before we outline characteristics of literacy education in ancient China, we provide a brief description of the Chinese writing system. Instead of providing a technical linguistic description of Chinese writing, we treat Chinese written script as a generally consistent entity, without specific attention to configuration and form changes over time, unless necessary. On such occasions when differences between ancient and modern written Chinese may confuse readers, we use the term “archaic Chinese” to refer to ancient forms of written script and point out the differences. Since the purpose of this chapter is to focus on the historical development of Chinese written language and its acquisition, we believe such a holistic treatment of Chinese written script is justified.

L. Tao (✉)

Literacy Education, College of Staten Island, City University of New York,
New York, NY, USA
e-mail: liqing.tao@csi.cuny.edu

G. Qian

Literacy Education, Lehman College, City University of New York,
New York, NY, USA

1.2 Dialects and Chinese Written Language

Two unique aspects of the Chinese language are important to one's understanding of the history of Chinese literacy education: the relationship between Chinese oral dialects and written script, and the relationship between dialects and a standard universal oral language. Aside from minority languages, seven major dialects are spoken in present-day China by more than a billion Chinese Han Nationality people. These seven dialects are Mandarin, Wu (吴), Min (闽), Yue (Cantonese) (粤), Kejia (Hakka) (客家), Gan (赣), and Xiang (湘) (Chang and Chang 1978; DeFrancis 1989; Duanmu 2007). Sub-dialects of the major dialects further extend language differences between regions. While these dialects share some lexical, phonological, and tonal similarities, they are usually not intelligible to each other in oral communication, except to the trained ear. These dialects share one common bond that makes the Chinese language a unique case in the world: a common written script. It is not a common script for mapping different pronunciations across different dialects. It functions instead as a means of capturing what needs to be conveyed. Therefore, it is not uncommon to witness people who speak different dialects of Chinese resort to writing as a means of communication when their spoken dialects are mutually unintelligible to each other (Chang and Chang 1978). This common written script is character-based, mono-syllabic, and ideographic or logographic.

While we have emphasized the mutual unintelligibility among Chinese dialects, it should be pointed out that it is wrong to conclude the Chinese have never attempted to make oral communication possible among people speaking different dialects. One persistent effort throughout Chinese history has been to promote a universal oral language for all Chinese people to communicate (Duanmu 2007). A common practice has been to adopt the dialect around capital regions as a universal oral language for communication and educational needs. For example, as far back as 551–479 BC, Confucius used Ya Yan (gracious oral language), the common oral language of that time, for reading classics and performing rituals (Confucius, 479 BC/1980; Duanmu 2007). Ya Yan was adopted from the region around the Eastern Zhou's capital near the current city of Luoyang. Later dynasties used other dialects common around their own capitals for universal oral languages. Modern-day China has adopted Beijing Mandarin, a dialect around the Beijing area, as the officially sponsored and promoted universal oral language of communication and education. The dialect is referred to as Putonghua in the People's Republic of China (PRC) and Guoyu in Taiwan. This means of determining a universal language has implications for current Chinese language education since official promotion and use of a universal oral language based on a certain dialect means users of all other dialects must learn to speak the official dialect. In schooling in the PRC, learning Putonghua, therefore, becomes an educational objective (Chinese Ministry of Education 2001), and literacy, thus, has an additional meaning and practice for users of other dialects in China.

We want to add one more point here to caution the reader of an over-simplified view of ancient China's dialect situation. There is some evidence that China's

dialects have changed over time, particularly with regard to tones and ending stop consonants, adding to the complexity of China's dialect issue (Ren 2004). However, we need to point out that these changes do not alter the nature of dialect differences as we now know them. Therefore, while we need to be aware of the complexity involved (DeFrancis 1984, 1989), it does not affect the points we want to make in the next chapter.

1.3 Characteristics of Chinese Written Script

1.3.1 *Logographic/Ideographic Nature of Written Chinese*

Five characteristics of the Chinese written language are most relevant to literacy education. First, Chinese written script is logographic/ideographic with the character as its basic unit. Out of the six categories of character formation principles originally proposed by Shen Xu in the ancient Han Dynasty, four types of characters are widely recognized by contemporary scholars of the modern Chinese writing system (Taylor and Taylor 1995; Wu et al. 1999). These are pictographic characters (象形/xiangxing), simple ideographic characters (指事/zhishi), compound ideographic characters (会意/huiyi), and semantic-phonetic compound characters (形声/xingsheng), among which semantic-phonetic compound characters account for about 90% of modern Chinese characters according to Qiu (2009).

Students are taught that pictographic characters are those that directly show the objects of the labels that describe them, such as the archaic Chinese character 日 (sun); ideographic characters point to concepts the labels describe, such as the characters 上 (up) and 下 (down); compound ideographic characters indicate the meaning of characters that usually combine radicals or stand-alone characters, such as the character 信 (trust) that has a radical “person” and a stand-alone character “say”; and semantic-phonetics point towards the possibility of syllable sounds of characters, such as the character 氛 that has a phonetic indicator/radical 分 (open) and a semantic indicator/radical 气 (gaseous).

Most Chinese characters capture oral language through a single-syllable and somewhat phono-morphemic approach, rather than through phoneme-mapped letters related to pronunciation and letter patterns as in alphabetic languages. In other words, the characters do not directly reflect the regularity in sound patterns, but they are semantically loaded, meaning-based units of written language. To illustrate the logographic/ideographic nature of Chinese characters, we offer some visually similar, but not identical, Chinese characters that do not cue the reader phonetically: 日 (sun, pronounced/ri/), 旦 (morning, pronounced/dan/), 亘 (spatially or temporally continuous, pronounced/gen/). While these examples of characters are not phonetically connected, they provide both visual semantic cues in the form of early ancient writing and etymologic associations among them. In that sense, Chinese characters do not directly signify exact meanings, given

the abstract onfiguration of characters, but rather they provide more semantic cues than phonetic matches between visual patterns and sounds. However, phonetic cues in Chinese characters do exist for many semantic-phonetic compound characters in the form of syllabic hints for readers who already have a solid fundamental understanding of Chinese written script. We will elaborate on this a bit further when we discuss the fourth feature of Chinese characters, the use of radicals and phonetics.

1.3.2 *Characters as Meaningful Language Units*

Second, the basic and meaningful units in Chinese written script are characters, rather than morphemes in an alphabetic language. The characters we cited above offer some examples. Characters are usually used in set expressions in modern Chinese, though they were used more as single expressions of meaning in archaic Chinese. It is worth pointing out that some linguists would argue these characters are morphemes (DeFrancis 1984; Ku Anderson 2000; Shu 2003; Shu et al. 2000), as their counterparts are labeled in an alphabetic language such as English (e.g., *re-* as in *regain*, *-s* in *plans*, or *-ed*, in *leveled*). This argument has its merits in that it offers both a familiar structure and a lens for Western linguists to examine written Chinese and provides a feasible platform on which initial comparative analyses of written Chinese and alphabetic languages can be conducted. However, the limitations are also immediately obvious to any Chinese user. The subordinate nature of bound morphemes in English (for example, *re-*, *un-*) does not capture the associative roles Chinese characters play in forming set expressions. Usually, Chinese word or phrase formation is similar to the way English free morphemes form compound words (such as *classroom*). In addition, grammatical indicativeness, in the form of affixation of some morphemic units in alphabetic languages such as English (e.g., *-ment*, *-ness*), is not directly available in written Chinese characters. More importantly, for beginning learners of Chinese, the morphemic view of characters is not helpful in assisting learners to identify word boundaries in modern Chinese since it assumes both that there is a complete functional unit called words and that morphemes would not contain other smaller semantic indicators. Neither of these morphemic assumptions is always true with Chinese characters. We will further address this in the fourth point below. Even though there is an overlap between the concept of a morpheme in English and that of a character, the latter is easier to grasp in practice, particularly for beginning learners of Chinese. In a sense, characters have a more independent role in written Chinese than this single morphemic argument allows. From a historical perspective, characters have remained the basic functional units of meaning in written script throughout Chinese literacy history into modern day China (Tang 1981; Weiger 1965).

1.3.3 Syllables as Pronunciation Units

Third, syllables are the most important pronunciation units to understand Chinese. Each character represents one syllable in pronunciation. Modern Chinese can have about 1,600 possible syllables with four distinguishable tones, much less than the syllable number in English. In fact, some estimation puts actual Chinese syllables at 1,300 (Duanmu 2007), much less than the estimated range between several thousand (Taylor 2002) and 20,000 (Li et al. 2002) in English. This would at least be essential to two aspects of character processing: difficulty in homophonic differentiation and insignificance of phoneme recognition.

Let us first address the difficulty created for homophonic differentiation. The 1,300 syllable sounds cover more than 48,000 different characters in Chinese, creating a tremendous amount of homophones, theoretically about 40 homophones on average for each tonal syllable sound (Anderson et al. 2003; Taylor 2002). Such a massive number of homophone characters would be confusing if syllables were used alone. However, different visual configurations and verbal collocational contexts—sequences of words that occur together both at the levels of set expressions and sentences—provide some necessary means for further distinction among homophones. For example, the following pairs of characters would be indistinguishable by sounds alone: 津津, and 斤斤 (all pronounced as jinjin with a first flat tone). Yet, they are recognizably different in visual form and in the following possible collocations: 津津乐道 (dwell on something with a passion), and 斤斤计较 (be picky). For beginning Chinese learners, the match between pronunciation of characters and their visual forms is acquired through both configuration recognition and functional contexts.

The second aspect of character processing relates to syllable recognition. The ability to break syllables down into phonemes is not necessary for syllable recognition. The phonemic ability so indispensable in processing alphabetic languages such as English (Ehri 1991) is not needed at the beginning stages of learning Chinese but will be partially useful in advanced stages of learning Chinese poetry. There is some evidence that points to the non-essentiality of phonemic awareness among proficient users of Chinese (see McDowell & Lorch 2008). What we stress here is phoneme awareness can be bypassed in learning Chinese characters, even though learning standard Mandarin Chinese would definitely benefit from knowledge of its phonemes.

1.3.4 Radicals and Phonetics in Compound Characters

Fourth, we will highlight two features that mark many compound Chinese characters: the use of radicals and the use of phonetics (also called phonetic radicals) in the making of Chinese characters. Radicals are a key component of many compound Chinese characters. Their function is similar to that of English morphemes in that

they can be divided into either stand-alone radicals or affixed radicals. Radicals are used as a component to form compound characters. These radicals can usually offer semantic clues to the meanings of the compound characters they form. Even though they cannot offer exact meanings of those characters, radicals can often provide semantic information to the categories of characters. For example, a character that has a 木 radical (wood) such as 树 (tree) would usually indicate the character refers to a substance that has something to do with wood. More examples would include 根 (root), 柳 (willow), and 梨 (pear). Historically, radicals have been recognized as an important component for understanding Chinese characters in their capacity to indicate possible semantic categories of characters (Xu 100/1989).

The use of phonetics is another way a semantic-phonetic compound character can be made, usually in combination with semantic radicals. Phonetic components or phonetic radicals can be stand-alone characters themselves, used with radicals to form compound characters. While phonetic components are only capable of pointing towards broad phonological information in compound characters, they can offer some possibilities of pronunciation. The resultant compound character can either sound the same as the phonetic component, can have the same onsets or rimes, or can have a different tone or sound. For an extreme example, characters having 者 (zhe) as phonetic components can have close to 20 different pronunciations in modern-day Chinese (Qiu 2009), making it a very unreliable pronunciation predictor. The phonetic radical 者 (zhe) can be found in “zhu” (猪, pig), “chu” (储, deposit), and “shu” (暑, summer). While phonetic components are not reliable indicators of pronunciation, they can be a useful assistance to Chinese learners due to the massive number of them in Chinese characters. In fact, about 90% of modern Chinese characters contain phonetic radicals, even though the percentage of phonetic radicals in high frequency characters is lower at about 74% (Qiu 2009). However, to access correct meanings and pronunciations of characters using phonetics would require somewhat advanced and special knowledge of Chinese.

1.3.5 Writing Strokes in Chinese Script

Last but not least, Chinese characters cannot be spelled due to a lack of direct letter representation of sounds. Eight basic writing strokes in Chinese script are essential to the physical formation of Chinese characters. These strokes have distinctive names and can be called out. In an alphabetic language, the spelling of a word is possible through auditory means. This is of course made possible by the limited letters that all have a name, as well as the directionality of arranging letters in a word. Given the limited number of letters available, orally spelling words is both a cognitively manageable means for acquiring the fundamental units of an alphabetically written language and a powerful instructional strategy to facilitate such acquisition. Furthermore, the horizontal writing directionality highlights the importance of the sequence of letter arrangement and mitigates at

the same time the spatial configuration of words. Therefore, calling out the letter names of a word in their letter sequence can create the word orally. Yet, Chinese presents a case with reverse characteristics. All strokes within Chinese characters are configured spatially but not directionally or sequentially as letter arrangements are in English words. Having an additional stroke can make a substantive difference to a character. For example, the character 大 (large, pronounced /da/) is semantically and phonologically different from the character 天 (sky, pronounced /tian/) that has an added stroke on top. Spatial configuration is all that matters in forming a Chinese character, and the sequence of strokes within a character is more procedural than substantive. Naming the strokes as one writes, though imposing a façade of temporal sequence, is not very useful in indicating the position of a stroke within a character, nor does it enhance the acquisition of a character. For example, calling out the strokes of a character such as 日 would not be cognitively functional or instructionally facilitative in learning the character since the listener would not know where the strokes should fall within the character, nor could he or she use this auditory input as a mnemonic tool for retaining the character. In fact, it may even confuse learners given the possibility that these similar strokes could form a different character with strokes positioned in a different configuration. In sum, oral spelling is not a very useful means to learn and use Chinese, which is not designed for visually accommodating auditory finesse at the phoneme level.

We need to point out that radicals behave similarly to strokes in the configuration of characters. Radicals within different characters can assume different positions and usually different sizes. Characters, however, remain an identical size in spite of the number of radicals and strokes in the different characters. This unique feature of Chinese characters complicates the task of learning to write or “spell” since both strokes and radicals retain their shapes, but not their size and position, in different characters. While position is key to the formation of Chinese characters, conventions play a large role in the position of strokes and radicals.

1.4 Ancient Chinese Literacy Education: Historical Perspectives

1.4.1 Shang Dynasty

Chinese literacy education, reading and writing instruction, must have begun when a systematic written language was already in consistent use, at least during the oracle bone character time of the Shang Dynasty (about 1700–1050 BC). However, due to a lack of historical documents, we cannot trace literacy education back that far to understand how reading and writing were acquired at that time. From archeological evidence of oracle bones, we know the system of Chinese written language was already well established and would have required prolonged

training to acquire. We also know specific cultural conventions that were captured through writing were also dependent on the writing itself to continue and develop, even though the practice was restricted only to ruling institutions (Chen 1985; Qiu 2009). Therefore, literacy acquisition during the Shang Dynasty must have been very specific and limited to only specially selected clerics and diviners, who recorded divinations and important warring events on meticulously prepared bone surfaces (Zhang 2011).

1.4.2 Zhou Dynasty

Brief mention of elementary education institutions in the Zhou Dynasty (about 1050 BC–256 BC) indicates that children went to school to learn reading and writing at around the age of eight, but no mention is made of how exactly reading and writing were taught (Hu 1990; Weiger 1965). A character book entitled *史籀篇* (*Shi Zhou Character Book*) appeared at this time and is generally believed to be the central government's effort to standardize the configuration and shape of character writing. While there is no written record of its use for beginning learners, the book was intended for any character user as a guide for correct characters and is believed to have been used by beginning learners (Ban, 111/1991). During that period, literacy acquisition was included in the education of aristocrats, and formal character text was in existence (Sun 1991). We also know from Confucius' educational practice that education was no longer limited to aristocrats (Bai 1982; Fu 2007). It is worth noting that the second half of the period, consisting of the Spring and Autumn period and the Warring States period, witnessed one of the most acclaimed fertile grounds for cultural and philosophical activities in China's history, producing such intellectual giants as Confucius, Lao Zi, Zhuang Zi, Mencius, Mo Zi, and Xun Zi. Most of these philosophers had their own schools and followers to advocate and practice their thoughts, situating literacy skills as a central means for intellectual exchange and distribution. Corresponding books of various schools were produced and circulated, greatly facilitating the spread of literacy among the general populace and occasioning at the same time the regional adoption of multiple styles of Chinese characters (Qiu 2009).

1.4.3 Qin Dynasty

During the Qin Dynasty (221 BC–206 BC), the first unified nation state in China, written script universalization was first officially enforced in China. The resultant character text *苍颉* (*Cang Jie*) was written in archaic Chinese style (Small Seal style) and provided examples for all users throughout China, including beginners. Up to that time, writing surfaces were mainly bamboo, wood, and, on rare occasions, silk, with brush pens and carving tools as writing implements. Descriptions of literacy education

at that time are hard to find, but character enforcement from the central government must have further de-aristocratized and streamlined literacy acquisition in a way that all other script styles previously in use were outlawed. The focus now was on communicative capacity and cultural identity as the most salient functions of literacy (Sun 1991).

1.4.4 Han Dynasty

The Han Dynasty (206 BC–220 AD) that followed saw the publication of the first and most well-known Chinese character dictionary, *Shuowen Jiezi* (Xu 100/1989), which explicitly laid out six principles of making Chinese characters. Paper also came into existence during this dynasty. Some limited descriptions of elementary education indicate the number of characters learned became the focus of literacy education, even though this learning still occurred in the context of learning Confucian texts, which were officially endorsed for the first time in the first half of the dynasty (Bai 1982; Zhang 1992). Character texts written at the time were morally oriented and focused on immediate daily use. There is some evidence that multi-age teaching in large classes was the norm at the elementary level. Using paper, a cheaper means for writing, at the end of the dynasty would have promoted literacy learning and practice. For the first time, characters formally embraced a simplified style called Li or Cleric style and became less picture-like and easier to write, signaling a move towards the modern character style in China (Xu 2009).

1.4.5 Wei-Jin Southern and Northern Dynasties

For the ensuing period of the Wei-Jin Southern and Northern Dynasties (220–589), we have similar sketchy descriptions of literacy education, but three important events clearly influenced literacy education: the emergence of the phonetic analysis of Chinese characters (Liu 2004), widespread use of character styles that were simplified in strokes but abstract in configuration (still in use today), and the popularity of Buddhism throughout the period (Bai 1982; Qian 1996). We would expect these events to contribute to literacy education by including the learning of correct pronunciation of characters in the universal language as a part of literacy acquisition, somewhat simplifying the task of learning characters in simplified character styles, and promoting repeated reading and writing of texts in the Buddhist tradition. Brush pens and paper became standard instruments of learning to read and write characters, and a well-known character text 千字文 (*Qian Zi Wen*) was produced by the end of this period.

1.4.6 Sui and Tang Dynasties

Few descriptions of literacy education during the Sui (581–618) and Tang (818–907) Dynasties exist, but circumstantial evidence abounds. For example, the civil service examination system for selection of officials started during this time and lasted for the next 1,300 some years. Part of the examinations assessed the literacy skills of candidates. In addition, poetic creations that depended on phonetic analysis of rimes and tones reached an unprecedented peak. The block printing technique was developed in this period and made writing more accessible to a larger audience than before. In addition to the types of character texts of previous dynasties, character texts for initial preparation for civil service examinations were introduced during the Sui and Tang Dynasties, thus situating character learning also in the context of moving up in the social ladder through official-scholar preparation (Bai 1982; Lee 2000).

1.4.7 Song Dynasty

The Song Dynasty (960–1279) was the time when elementary education came to the forefront of educational concerns. Various texts of characters and rules for elementary schools were published. From a technical viewpoint, the maturity of the block printing technique was reflected both in the standard printing fonts available and in the highly sophisticated book-binding format of the butterfly style that made information in books more accessible, even though the movable font printing technique invented then was not put into use until the late 19th century in China (Bai 1982; Tsien 1985). From a socio-economic perspective, the development of printing presses across the country greatly reduced book prices and made books more accessible to a large audience (Lee 2000). Clear instructions about learning to read and write were described in rules for elementary students. The literacy qualifications of teachers were clearly stated. Students were divided into different levels, and characters were learned through repeated reading aloud and writing. The emphasis was on learning characters and Confucian texts but not on understanding what was read (Chi 1998). Character texts of the time, however, did take into consideration motivational aspects of young people's learning by making texts more interesting and easier to remember. A character text *三字经* (*San Zi Jing*) produced during the Song Dynasty has been continuously used up to modern times (Zhang 1992). Schools of various types, ranging from government schools to community schools to seasonal schools, were reported.

1.4.8 Yuan and Ming Dynasties

More accounts of literacy education exist for the ensuing Yuan (1206–1368) and Ming (1368–1644) Dynasties than for previous dynasties. Thanks to the mature

technique of block printing in the Song Dynasty, books were now printed in large numbers (Bai 1982; Sun 1991). Elementary schools were systematized as part of the educational system in the Yuan Dynasty and were almost everywhere in Ming times. The influence of civil service examinations on elementary school learning, particularly on literacy learning, was more extensive throughout these dynasties. Educators at the time must have noticed the weight of these examinations on young students and began to emphasize teaching to students' interests, but this was a practice followed by individual teachers rather than a formalized teaching procedure. Accompanying pictures for the first time appeared in some texts for learning characters, catering to the needs of young learners (Chi 1998; Zhang 1992).

1.4.9 Qing Dynasty

The Qing Dynasty (1616–1911) saw heightened attention paid to literacy education, both popular literacy and elementary literacy, but instruction continued to follow traditions set during the Song Dynasty (Bai 1982; Rawski 1979). Previous character texts were still very popular. More textbooks of character learning were published with an emphasis on moral and Confucian content, as well as purely on character learning. The influence of civil service examinations was strong, continuously affecting both character learning modes (such as repeated reading and recitations) and the content of texts. Popular literacy was also promoted at the time by Western educated scholars and teachers, particularly among poor communities and religious congregations (Bai 1982; Rawski 1979). For the first time in Chinese educational history, language reform in the direction of alphabetizing Chinese written script was discussed and became a serious scholarly and social endeavor, though it came to little avail as far as the nature of written script was concerned (Bai 1982; Chen 1999; Ichikawa and Komatsu 2008). However, reform efforts that began at that time later were subsumed into modern efforts of indexing pronunciations and simplifying characters (Zhou 2004).

1.5 Literacy Learning and the Nature of Chinese Orthography

Based on the above brief overview of historical evidence of literacy education in ancient China, we next will summarize the main ancient Chinese perspectives on literacy learning in the context of Chinese orthography. We believe literacy learning is ultimately necessitated by the needs and functions of written script in a society and is eventually realized through learners' insights into the nature of the written script. Therefore, we will approach this summary both from the context of the history of literacy learning in China and the uniqueness of Chinese orthography, moving from social concepts to educational concepts and practices.

In ancient China, written language and literacy played an essential role in society from the very beginning. The divination of oracle bones—the presumed power of foretelling the future through characters on the bones—was recorded through literacy. In Confucian times, the centrality of literacy was clearly demonstrated through Confucius’ own words and deeds. In later times, whether in the enforcement of character universalization in the Qin Dynasty, the introduction of paper as a writing surface in the Han Dynasty, or the initiation of literacy intense civil service examinations in the Sui and Tang Dynasties, words represented in characters became the carrier of social and cultural conventions. Therefore, literacy at both its basic and advanced levels became an absolute necessity for social and cultural participation, whether to grow into a gentleman (君子, junzi), to become a scholar-official, to simply follow ceremonial rituals, or to be a devotee of the Buddhist religion. This was, and to some extent still is, the context in which literacy acquisition occurred. In traditional Chinese society, teachers and scholars were called “persons who read,” highlighting the central role literacy played in defining a respectable person in society. With regards to literacy learning in general, this type of writing-centered milieu provided incentives and motivation for learners. Repeated reading aloud and character writing became methods to develop literacy skills from the beginning.

It is also clear from the brief review of the history of literacy education above that Chinese texts using characters moved from formats that fit all users to formats considered appropriate for beginning and young learners. In about 1,500 years from the remnants of 史籀篇 to 三字经, we notice an educational awakening to both the unique nature of Chinese orthography and the special needs of young children’s character learning. Over time, character texts became more rhythmic and limited in the number and complexity of characters. The texts became an initiation into common knowledge of nature and society, interspersed with stories, and were a stepping stone for further advanced learning of Confucian texts. The variety of character texts in the later years of ancient China is testimony itself to the needs and sensitivity towards the initial stages of character learning. Characters could be learned in small steps through accretion, at different rates according to different abilities, and through different texts for different functional purposes. It is also clear that moral messages and Confucian thoughts continued to serve as the contexts in which most of the character texts were written and taught.

When it comes to educational practice, literacy learning and teaching usually involved the following components in ancient China: reading aloud single or contextualized characters, repeated readings of characters, tracing and writing the characters, recitation of texts and poems, and learning the basic character-making principles (Sun 1991; Tao and Zuo 1997). We will briefly discuss each of these teaching methods here.

1.5.1 Reading Aloud to Learn Characters

Reading aloud to learn characters was extremely popular and was recorded at the earliest in the Han Dynasty. It may not surprise anyone that a beginner learns

to read through reading out loud, but it was especially relevant to learning Chinese characters because of the existing dialect differences, the non-alphabetic nature of the script, and the homophonic similarity of numerous characters. Reading aloud made it possible for a beginner to acquire character pronunciations in the universal language of the time, to establish immediate connections with the pronunciation of characters to achieve automaticity, and to develop a foundation for further differentiation of characters in contexts. Repeated reading of characters and texts was a practice that enhanced the result of reading aloud but could become very boring and monotonous when the texts used were limited. However, the advantage of repeated reading was also obvious in that it reinforced auditory-visual connections that were needed in reading and identifying characters within a non-alphabetic script. It also made automaticity possible even if it was very shallow at this stage. The resulting oral fluency would be useful to familiarize students auditorily with concepts and characters that were not within their daily vocabulary and concepts, setting the stage for later advanced learning.

1.5.2 Tracing and Writing Characters

Tracing and writing characters were always a part of beginning character learning. Not only did tracing start students off right in learning characters (as it was well known in China that one's writing reflected one's personality), but also it helped in learning the strokes, positions of strokes, and radicals within characters, and more importantly in recognizing the visually identifiable features that would be useful in differentiating homophonic characters. To be more specific, Chinese characters have unique spatial configurations that require meticulous attention to the stroke and radical details within identically-sized characters. In order to learn a Chinese character, one must acquire the procedural and visual insight that a stroke or a radical is resizable in a character, but the characters themselves are not resizable. This adds an additional obstacle in learning to "spell" characters. Tracing and writing characters from the beginning of instruction provides a procedural means for the learner to acquire both insight into and practice of correct character writing. Therefore, tracing and later writing characters was a primary task for beginners (Wilkinson 2000).

1.5.3 Recitation of Character Texts and Poems

Recitation of character texts and poems was a must, especially after the civil service examinations were introduced, since students who set their eyes on a high social status would need to have the basic skill of knowing traditional classics by heart. As we pointed out in our description of literacy in the Song Dynasty, children were not required to understand the meaning of characters or texts at the beginning stage of

learning, but remembering the characters was essential. However, effort is not always sufficient for learning, as some educators realized, so they would introduce texts that catered to the interests of children and set the order of learning classics from easy to advanced texts. From the perspective of learning characters, it should be understood that characters are better remembered in the context of continuous texts. Classic character texts such as 千字文 and 三字经 provide good examples of texts that have been recited for about a thousand years by beginning Chinese learners (Zhang 1992). Modern day Chinese curriculum in Mainland China also has recitation as one of the main instructional practices and learning objectives (Zhou 1999).

1.5.4 Six Principles of Character Writing

After learning a few characters, beginners in ancient times were also introduced to the principles of character writing. While it was usually referred to as the six principles, as described earlier in this chapter, we believe the most relevant principles are the four that help learners see the nature of Chinese characters: pictographic, simple ideographic, compound ideographic, and semantic-phonetic aspects. These principles of character writing provided students with opportunities to be more independent in their literacy learning. However, it was usually understood that the utility of the four principles was not equal for all beginners. The fourth principle seemed to be the most useful, but learners needed substantive knowledge of a large number of characters in order to fully benefit from it.

1.6 Conclusion

We have briefly discussed the characteristics of Chinese written script, sketched an outline of literacy education through Chinese history, and summarized ancient Chinese perspectives on learning to read and write. Chinese literacy acquisition throughout Chinese history centered on the essential role of written language in the society of the time. Individual efforts following Confucian traditions were conceived as necessary and essential to learning Chinese script. Social ambitions for literacy acquisition were fueled by the government-sponsored official-selection mechanism of civil service examinations. Also, the characteristics of Chinese orthography and unique language and dialect issues made some educational practices salient features of ancient Chinese literacy learning.

In conclusion, we would like to offer five implications of our historical survey that are relevant to current literacy educators and policy makers. First, social and cultural functions of literacy are important for the promotion of literacy acquisition. Confucius' thoughts on learning and civil service examinations greatly influenced literacy learning processes and content in Chinese history. Second, technology development fundamentally affected the way literacy spread, but only in the context

of social and cultural functions of literacy. Changes from bamboo and wood writing surfaces to paper, and from copying to block printing altered the accessibility of literacy texts. However, we need to keep in mind that paper was not invented initially for writing and the movable font printing technique was not used when it was first invented about 1,000 years ago. Take movable font print as an example. It was not seen as absolutely necessary given the availability of block print at the time (Shen, 1090/1997). In fact, it was not in tune with the writing traditions of ancient China where an individual's writing of characters was regarded as capturing his personality. Movable font print did not do justice to this appreciation of character writing in ancient China where there was no urgency to acquire information.

Third, the orthographic nature of a written script needs to be taken into consideration in literacy instruction and acquisition. For example, learning Chinese characters without engaging in understanding some principles of how the characters are made will be less effective, just as learning English without understanding the alphabetic principle will be equally ineffective. Of course, as we pointed out, not all principles are equally useful for beginners. Fourth, writing at the beginning literacy stages is beneficial. Writing has always been a necessary part of Chinese literacy learning due largely to the spatial positioning of strokes and radicals within Chinese characters, but writing will also enhance the precision of identification of characters and can strengthen our understanding of the nature of the script. The same should be true for other scripts, be they alphabetic or ideographic. Last but not least, the changes in character texts from no attention to reader characteristics to more attention to the special learning needs of children resulted from a realization that we need to understand who we are teaching. This realization is equally important for us literacy educators today. In this multicultural and technologically-advanced age, we need to find ways to make literacy learning relevant and effective from the perspectives of diverse learners.

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