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Curriculum design in teaching Chinese characters to American students: when and what?

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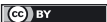
Abstract: Chinese characters have been the most challenging aspect of the language to American learners. Whether or not and how to teach Chinese characters to beginner learners have been debated since the 1930s. Nowadays, the ubiquitous presence of computers and tablets has complicated how Chinese characters should be integrated in the curriculum. It is important to systematically review what scholars have proposed regarding curriculum design for teaching characters in the United States. In this systematic review study, an exhaustive search through the past nine decades of scholarship on teaching Chinese characters identified 16 peer-reviewed journal articles published since 1937 that focused on teaching Chinese characters at the level of course design and overall curriculum design for a Chinese program. Two themes regarding character teaching – when and what to teach – were identified. Each theme was analyzed in detail, and a tentative model was proposed based on that analysis.

Keywords: characters; Chinese script; curriculum design; logographic orthography

提要: 在美国的中文教学中, 汉字学习始终是学生面临的最具挑战性的问题。自20世纪30年代以来, 关于是否向初学者教授汉字以及如何教授, 一直存在争议。计算机和平板电脑的普及, 使得如何在课程中融入汉字教学的问题更为复杂。因此, 系统地回顾总结以往研究者所给出的有关汉字教学设计的建议就非常重要。本研究对过去九十年间的相关探索进行了穷尽式搜索, 对找到的16篇经过同行评审的期刊文章进行了系统分析, 重点聚焦于汉字教学的课程设置和学科项目中的整体课程设计。研究发现, 关于汉字教学的讨论有两个主题, 即何时教授汉字和教授汉字的哪些方面。基于对每个主题所涉及具体方面进行的详细分析, 本研究尝试提出了一个汉字教学课程设计的模型。

关键词: 汉字; 中国文字; 表意文字; 课程设置

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1 Introduction

Orthography is a standardized system of writing. It is the collection of rules that allow us to visually represent a language. There are three major types of orthography. Languages that use symbols for syllabic sounds have a syllabic orthography, such as Japanese; languages, like English, that have symbols for individual sounds use an alphabetic orthography; and the Chinese language, in which symbols are used for entire morphemes, uses a logographic orthography (DeFrancis 1984; Perfetti and Dunlap 2008; Shen 2013; Xu and Jen 2005; Zhou and Marslen-Wilson 1999). Even though there are many characters in Chinese and 81.2 % of the characters are semantic-phonetic compounds compared to 3.9 % as pictographic, 1.3 % as ideographic, 12.3 % as compound indicatives, 1.2 % as borrowing, and 0.07 % as explanatory (Sun 2006), only about 30 % of the total amount of characters, i.e., only 37 % of the total amount of the semantic-phonetic compounds, have some internal features truly corresponding to sounds in the syllable (Zhou 2009). The majority of the semantic-phonetic compound characters are not phonetic because “the so-called phonetic compounds represented sounds fairly closely when they were made, but often are no longer appropriate for modern pronunciations” (Chao 1976: 92). In other words, the phonetic part of the semantic-phonetic characters only reflects the *category* of sound because of the changes of pronunciation in thousands of years, even less possible to entirely reflect the real way of the pronunciation of the character (Huang 2005).

As a logographic orthography, the Chinese language inherently values both the written form and the spoken form, which is expressed by the conventional Chinese word for “language”, that is, “*yǔwén* (語文).” “*Yǔwén*” is composed of two syllables representing two different characters, each with its own meaning: *yǔ* (語) represents *yǔyán* (語言), the vocal aspect of the language; and *wén* represents *wénzì* (文字), the image or symbol of the language. Therefore, “language” in Chinese refers to two different symbolic systems: *yǔ* and *wén*, spoken and written, sound and script, or phonology and orthography. Their existence indicates that the sound and the orthography of the language are both important. *Wén* (文字) is not only an integral part of the Chinese language, but it also carries cultural meanings. Traditionally in China, knowing characters, or *shízì*, indicated and continues to indicate one’s status and intelligence. The historian Zheng Qiao wrote in *Tongzhi* in 1161 AD, “In the empire, those who know characters are regarded as wise and learned and those who do not as stupid and mediocre” (cited in Wilkinson 2022).

There is not an accurate account of the total number of characters in the Chinese language, but we can find a rough number by looking at the most representative dictionaries. For example, *Zhōnghuá Zìhǎi*, the largest Chinese character dictionary

available in print and published in 1994 contains 85,568 characters. The second edition of *Hànyǔ Dàzìdiǎn* (*the Great Compendium of Chinese Characters*), the international standard reference for Chinese characters published in 2010, includes 60,370 characters. The best-selling and most popular Chinese dictionary *Xīnhuá Zìdiǎn*, in its 12th edition published in 2020, has over 13,000 characters.

Even though Chinese has tens of thousands of characters, “adult literacy is defined as knowing at least 3,000 characters” (Wilkinson 2022: 38) in addition to other influencing factors involved in literacy development such as knowledge of words, grammar, punctuation, discourse and so on. There has been an official listing of 7,000 commonly used characters in Chinese since 1988 (Wilkinson 2022). Out of the 7,000 characters, knowledge of the most frequently used 2,500 characters is enough for a person to comprehend 97.97 % of everyday Chinese writing. Knowing the next 1,000 most commonly used characters would enable comprehension of 99.48 % of everyday Chinese writing and knowing an additional 1,700 (for a total of 5,200 characters) would enable 99.99 % comprehension (Wilkinson 2022).

1.1 Chinese as a foreign language learners learning characters

For almost all Chinese as a foreign language (CFL) learners, the common perception is that Chinese is a difficult language. However, as Teng (2021) pointed out, it is not correct to simply say so. Rather, different aspects of the Chinese language are difficult for learners with different backgrounds. CFL scholars agree that for those whose native language is an alphabetic language, teaching and learning Chinese characters is an enormously challenging task (Bell 1995; Chang et al. 2014; DeFrancis 1984; Everson 1988; Ke et al. 2001; McGinnis 1999; Shen 2013). The Foreign Service Institute (US Department of State) categorizes languages into four categories based on their difficulty level as a second or foreign language. Languages such as Chinese and Arabic were categorized into category IV. It takes two years for American CFL learners to reach the same proficiency level in Chinese that it would take only about six months to reach in French (Everson 2009; Kubler 2001). However, if writing is not required in learning Chinese, the difficulty level of Chinese would be lowered from category IV to category III (Kubler 2001).

1.2 The importance of efficient teaching characters to CFL learners

Since “characters are the only authentic writing system for Chinese”, there is not an alternative way to learn the language (Kubler 2001: 13). Meanwhile, because

CFL learners do not have as much time as the native speakers do in learning Chinese characters and spoken Chinese, CFL teachers have to work “hard and smart” by finding the best ways to teach characters (ibid.). Wang (2014) called for scholars to discover the uniqueness of Chinese characters and not blindly apply the theories that work for alphabetic languages to teaching it. As a matter of fact, American linguists have largely ignored orthography “on the grounds of irrelevance” (Derwing 1992: 194), especially since Bloomfield claimed that “a language is the same ... no matter what system of writing may be used to record it, just as a person is the same no matter how you take his picture” (1933: 21, as cited in Derwing [1992]).

Many studies have examined how to teach characters (S. Zhang 2021). However, most focus on one or two specific strategies for teaching a certain group of characters or teaching a specific group of students. In a synthesis study on pedagogical approaches used in character teaching, Zhang (in press) identified a few categories of specific character teaching strategies that are beneficial for helping students learn specific characters, but they do not offer much insight into how to integrate character learning more widely throughout the curriculum. Despite the efforts of scholars and practitioners in the past decades, there is still not a clear path to advance character teaching and learning at the level of course and curriculum design.

To find a sustainable approach for creating a clear path forward, it is necessary to look into the most basic concerns: curriculum design; the timing of initial character instruction; how to integrate character instruction in the curriculum; whether character recognition and character writing or only recognition should be taught; and so on. With the ubiquity of portable electronic devices, people rarely write by hand now, and this further complicates the discussion. For example, should typing replace handwriting? If so, when should typing be introduced? If not, how, and when, should handwriting be introduced? These questions have been a source of long debate among CFL educators and researchers (e.g., Jiang 2017; Knell and West 2017; Packard 1990; Ye 2013; Zhang 2009). Previous research on American learners can be reliable resources for proposing what should be done in the future. This much needed review study offers a comprehensive, systematic, and in-depth account of refereed journal articles’ research findings and researchers’ points of view on this issue.

2 Literature review

Two previous review studies of character teaching have approached the literature from different perspectives. Li’s (2020) systematic review used a thematic analysis

method to analyze articles on Chinese character teaching and learning published in and outside China between 2005 and 2019. This study found a large gap in the use of research methodologies between the studies published in China and those published elsewhere. Li also discovered that the use of computer-assisted language learning in character teaching was a key research topic outside China, while exploring new pedagogical ideas and strategies was of interest among scholars in China. This review study provided valuable information on research themes and methodology trends, but it did not examine the issues of teaching and learning characters in second language curriculum.

Zhang and Ke (2018) reviewed research findings that focused on the impact of learners' knowledge about radicals on character learning, the effects of L1 background on L2 Chinese character acquisition, and the learning strategies adopted by L2 learners. (Note: A radical is the base graphical component of a compound character under which the character is traditionally listed in a Chinese dictionary). They also discussed two curricular issues regarding character instruction: the timing of introducing Chinese orthography; and whether we should teach handwriting or computer-assisted writing. They focused on the reasons for, benefits of, and problems of delaying or not delaying character introduction and how to balance handwriting with computer-assisted writing. A systematic review of literature that gives a more detailed and precise understanding of the issues of situating Chinese character instruction within the curriculum design is still needed.

Another two review studies focused on character teaching strategies. Zhang (in press) systematically reviewed literature relevant to strategies used in character teaching in a classroom/lab setting online and offline to L1 English CFL learners. She identified 22 empirical studies published from 1952 to the present. These studies were cross analyzed in terms of research methods, learners' proficiency level, learning settings, methodological approaches, and theoretical bases. Out of the 39 methods utilized in these studies, she found six categories of character instructional methods. The analysis of the data points out the strengths and weaknesses of the current research on character teaching. One of the weaknesses is the lack of research on using different approaches at the curriculum level and so she called for research on character teaching from the perspective of curriculum design.

Zhang and Da (in press) completed a synthesis study on how technology has been integrated to assist character teaching. This study exhaustively examined the literature related to technology use in teaching characters and found 24 relevant empirical studies from the beginning of this century. These studies used different types of technology to improve various aspects of character learning. This synthesis study shed light on how to use specific technologies to maximize students' character learning, but it does not provide suggestions on issues such as the timing of character introduction and how to integrate character learning into the curriculum.

Other studies review how CFL learners cognitively process characters and what factors affect the cognitive development of students' character learning. For example, Shen (2013) systematically examined CFL learners' literacy development in terms of character learning, including the cognitive characteristics of learners' development of metalinguistic awareness in Chinese, the strategies they employed when learning to read and write Chinese characters, and the optimum pedagogical practices to facilitate character learning. Ésik (2020) discussed general questions such as whether CFL learners should learn to read and write Chinese characters and whether simplified or traditional characters should be taught, but she did not reference previous scholarly works. A historical view, however, is necessary because debates over how character teaching appears in the curriculum continue since the 1930s when Chinese began to be taught in America (e.g., Allen 2008; Knell and West 2015). These studies have no doubt contributed to expanding our understanding of character teaching, but a clear comprehensive review of what scholars and practitioners have proposed is needed.

The purpose of this synthesis study is to identify peer-reviewed research on teaching Chinese characters, to systematically analyze this body of research, and to offer a tentative model for curriculum integration of Chinese character instruction. Due to the absence of a transparent boundary for Chinese words and the fact that "Chinese orthography requires no space between characters, regardless of their morphological status" (Sun 2006: 46), the distinction between the notion of "word" (*cí*) and the notion of "character" (*zì*) often becomes obscured in speakers' mindset. This synthesis study primarily focuses on the instruction of *zì* (characters) – a more intuitive concept according to Sun (2006) – each of which represents a morpheme-syllable irrespective of its morphological classification. It is also important to note that while the debate between monism and dualism approaches in teaching Chinese exists (Bellassen 2018), its discussion is more appropriately reserved for a separate article.

The research questions for this study are:

- 1) What does nine decades of literature say about the curriculum for Chinese character teaching in the United States?
- 2) What can be drawn from the literature to help design a model that integrates character teaching into the current CFL curriculum?

3 Methodology

To answer the research questions, a systematic review method was adopted to synthesize current knowledge on various topics. The increased demand for using research evidence to inform policy and to practice decision-making in evidence-

informed education (Nelson and Campbell 2017) has called people's attention to the "contextual and methodological limitations of research evidence provided by single studies" (Newman and Gough 2020: 4). Synthetic reviews of research carried out in a systematic, rigorous, and transparent manner can help address those limitations (Newman and Gough 2020).

A few steps are necessary for conducting a systematic review (Newman and Gough 2020; Tawfik et al. 2019). These steps include constructing selection criteria for a literature search based on the research questions, selecting studies using selection criteria, developing a search strategy, and synthesizing results of individual studies to answer the research questions. These steps were followed in this study.

Four criteria were used in the literature search. First, only peer-reviewed journal articles were included. Second, each study had to focus on the curriculum design for Chinese writing system teaching, such as whether characters should be taught, when characters should be introduced, and what aspect of the written language should be taught. Studies done in the area of teaching strategies that resulted in helping teachers design specific methods in teaching characters but that are not directly related to how to integrate teaching written Chinese in the curriculum design were not included in this study (see Section 1 for a comprehensive rationale behind the exclusion of studies focusing on teaching strategies. For a comprehensive examination of specific character teaching methods, please refer to the forthcoming systematic review by Zhang [in press] and Zhang and Da [in press]). Third, each study must inspect teaching Chinese to American students in the United States. Fourth, the study had to be written either in English or in Chinese. The search included studies published between 1937 and 2022. Given the inherent difficulty in conducting empirical studies pertaining to curriculum design issues and the possibility that there might be a limited number of such studies available, it is pertinent to note that the search scope is not restricted solely to empirical research. Concept papers authored by esteemed experts in the field hold considerable value, as they offer valuable insights, vision, and guidance for the advancement of the discipline.

Three search methods were used for the purpose of identifying all available studies that met the four criteria.

- 1) Database search. Four databases were used: Linguistics and Language Behavior Abstracts (LLBA), ERIC, PsychInfo, and Education Index Retrospective (EIR). The databases complement each other to cover all the important journals in a wide range of fields, including linguistics and languages, education, and educational psychology. When searching these databases, "Chinese character", "*hanzi*", "written Chinese", and "Chinese writing system" were used separately as search terms to include all possible articles. A manual screening was then done with the search results to gather relevant articles.

- 2) Focal journal archive search. The two most important CFL journals in the United States were closely inspected: *Chinese as a Second Language* – the flagship journal of the Chinese Language Teachers Association – and the *Journal of Technology and Chinese Language Teaching*. The recent indexing of these two journals indicates that some issues might not have been indexed in the four databases. The search of the archives of these two journals ensured the exhaustiveness of the search.
- 3) A manual search. A manual search through the references of the selected articles from the previous two searches was conducted. The manual search helped find any relevant articles that the other searches might have missed.

These three searches resulted in a set of 98 articles that were related to Chinese character learning and teaching. These articles were further screened manually based on the selection criteria. Sixteen articles satisfied all the criteria. Information about each of the 16 articles was recorded and analyzed. See Appendix for the 16 articles.

4 Findings and discussion

The chronological distribution of the 16 studies shows an increase in studies published to address character teaching curricular issues in the past two decades (see Figure 1). However, compared to other aspects of character teaching, such as teaching methods and character learning development and strategies, there are far fewer publications on curricular issues, such as whether and when to teach characters and what skills or aspects of the characters to teach (Loh et al. 2018; Shen 2013; S. Zhang 2021; Zhang in press). The two earliest published articles studied teaching Chinese characters. “A minimum vocabulary in modern Chinese” by Kennedy (1937) was published in *The Modern Language Journal*, and “Learning the Chinese script can be easy” by Shen (1958) was published in *Language Learning*. This confirms that

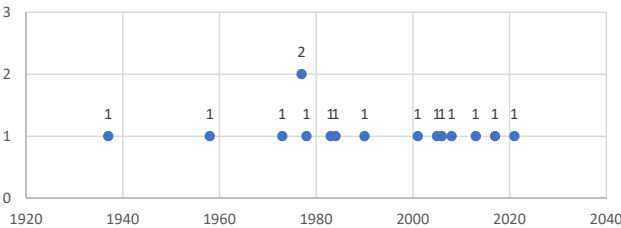


Figure 1: Chronological distribution of 16 articles published from 1937 to 2022.

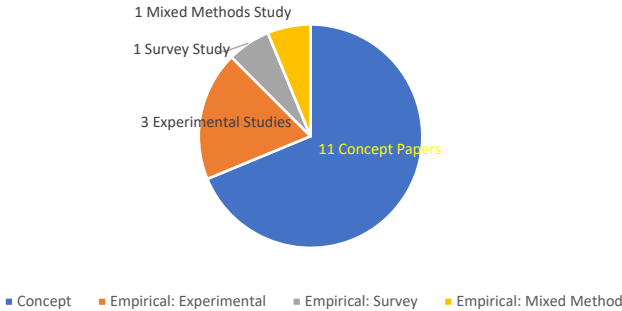


Figure 2: Research methodologies adopted in the 16 studies.

scholars have endeavored from the beginning to address the challenging issue of teaching Chinese in the United States.

As expected, a majority of the 16 studies were conceptual (see Figure 2). Out of the five empirical studies, three were experimental studies, one was a survey study, and one was a mixed methods study. The small number of empirical studies might be due to the fact that researching the effectiveness of curriculum design needs more resources, time, and support than studies on teaching strategies.

Kennedy’s (1937) concept paper focusing on character teaching was the first to point out the main reasons for the challenges American CFL learners face. First, “its ideographs present in themselves no correlation between sound and form”, and second, “[the ideographs] have almost entirely lost what might have been a compensatory advantage, namely, the correlation between form and concept that would characterize a more primitive system of pictorial writing” (ibid.: 587). He stated that the learning of ideographs (or characters) was the fundamental problem in the study of written Chinese. He also addressed the issue about how many characters are appropriate for beginner learners to master. In addition, Kennedy extended his argument to literacy development by calling attention to two other difficult aspects in learning written Chinese: words and “connected prose” (ibid.).

Thus, Kennedy’s (1937) article laid the foundation for character teaching. First, it pointed out the distinct feature of the Chinese language from other alphabetic languages that characters are not equivalent to words; therefore, the teaching method for alphabetic languages should not apply to character teaching. Second, it revealed that students needed to make extra effort in learning characters because “combinations of ideographs require a further effort of learning” (ibid.: 590). Third, it reasoned that learning characters did not necessarily start with learning to write spoken Chinese because the most frequently spoken language is not necessarily frequently written. To economize learners’ efforts, this article proposed the need for

“a more scientific standard of selection” of characters to be mastered (ibid.: 591). Fourth, it suggested that word frequency should be a factor in selecting characters that are taught. This suggestion corresponds to the more recent argument by Huang (2005).

This 1937 article heralded the major themes of debate regarding curriculum design of character learning in later research. Two themes were identified among the 16 articles: when characters should be introduced and what about the characters should be taught. These two themes were interwoven in the 16 articles owing to the interdependent relationship between the timing and content of teaching characters.

4.1 Theme #1: when should the Chinese writing system be introduced?

There are two overarching views on the timing of character teaching: teaching the written and spoken language at the same time; and delaying the teaching of written Chinese. However, individual scholars can have differing rationales for their views, including whether and how technology should be used for writing and how long to delay the teaching of writing.

4.1.1 Arguments for teaching written and spoken Chinese at the same time

Writing and speaking should start at the same time. Three representative works supporting this view are by Liu (1983), Yin (2006), and Knell and West (2017). All regarded character learning as comparable to learning handwriting and radicals, but they argued these points differently.

Liu (1983) advocated that both the characters and sounds of the language should be taught side-by-side based on the cognitive learning view. She argued that the sounds and the characters of the language could “be treated as two different but related concepts” that can be learned in tandem (ibid.: 68). Students should establish the relationship between these two concepts when starting to learn the language; any delay would deprive them of too much time to learn. She stressed that “how” rather than “when” to learn was important. She regarded characters as a body of information with a semantic classification system, i.e., 214 radicals that could be combined with other elements to produce many characters that share the same semantic reference. Students should only learn radicals from “a careful selection of the most common radicals”, rather than whole characters (ibid.: 73).

Yin (2006) believed that students need a solid foundation in pronunciation/tone and handwriting skills. To achieve this, writing and speaking should be taught simultaneously in two separate tracks, one for pronunciation and tones and the

other for writing. He argued that this proposed solution would give students devoted practice of both that many students were lacking. Yin states that the right time to merge learning spoken and written into one track is when students learn more spoken homophones and become curious about the characters for them.

Knell and West (2017) conducted an experimental study on middle school students learning characters, in which the delayed group started to learn characters 14 weeks after the early instruction group. When the delayed group started to learn characters, the early instruction group had learned 65 characters. The results showed that the early instruction group performed significantly better than the delayed group on reading comprehension, character writing, and sentence writing tests, and that there were no significant differences between the two groups on the oral interview, the oral fluency assessments, and the character recognition assessment. The findings suggested that teaching characters “in a slow and heavily scaffolded manner at the beginning of instruction may be advantageous” for middle school students (ibid.: 526).

Typing and speaking Chinese should start at the same time. Three representative studies (Allen 2008; Xu and Jen 2005; and P. Zhang 2021) proposed to bypass handwriting with typing, thus advocating that learners start *typing* characters and studying spoken Chinese at the same time.

Using descriptive statistics, Xu and Jen (2005) assessed a Penless group of learners that used Chinese word processing software and a handwriting group that wrote characters by hand. The Penless group typed the pinyin (the Romanization system of Chinese) and choose the correct character from a list of homophones, which meant they practiced speaking and reading. The writing group did not use typing but practiced writing by hand. The findings show that the Penless group outperformed the handwriting group in speaking, character “writing”, and character recognition. Xu and Jen argued that the Penless approach could “by-pass the tremendous difficulty in learning to write Chinese characters and to acquire overall language proficiency far more rapidly” (ibid.: 31). They also argued that a demonstration of handwriting skills was seldom required. Typing, on the other hand, could be used to enhance the CFL learners’ ability to read, speak, write basic emails, and learn academic communication and composition skills. Xu and Jen also claimed that the CFL learners did not have much time to achieve what “a native Chinese speaker normally spends more than six years” to achieve, and many teachers had an “un-realistic projection about what our students should be able to do” (ibid.: 41).

Similarly, Allen (2008) believed that once students had a good command of the pinyin used in the classroom, “electronic writing can follow the textbook closely with little regard to the complexity of the characters needed” (ibid.: 245). He suggested that an assignment in the beginning weeks could be simply typing out the dialogues that appear in the lessons. Approaching “writing” this way would require no new texts.

With the early introduction of electronic writing, the students can quickly learn “an accurate and elegant way to write” (ibid.).

P. Zhang (2021) assessed the impact of using a well-structured pinyin-typing approach on beginning learners’ character learning with descriptive statistics. In routine typing assignments, students used pinyin to type words and phrases instead of individual characters. Compared to the group who used the intensive or balanced handwriting approach, the students who typed performed equally well in reading comprehension and accuracy in typed essays, and performed better in essay length, sentence-level word recognition, and program-end cumulative character retention. Both groups had equivalent amounts of attrition; the only weakness shown in the typing group was isolated character recognition. Zhang stressed that for ideal results the typing approach should be structured and practiced systematically throughout the beginning stage of learning. Typing should take precedence over handwriting because it is important to know phonological-visual and chunk-based encoding as the initial encoding mode instead of the stroke- and part-based coding.

4.1.2 Arguments for delaying character learning

The primary team that argues for delayed instruction are Shen (1958), Packard (1990), and Kubler (2001). Shen (1958) attributed the difficulty of learning Chinese to the approach of teaching speaking, reading, and writing simultaneously, comparing a learner doing this to “a layman who must learn to sing, to recognize music notes, and to play an instrument at the same time” (ibid.: 18). She proposed that speaking should come first so students could form new oral habits from a behaviorist and structuralist perspective. Reading should be introduced after the new oral habits are established and should be “confined to what they already can say” so learners could associate the sound with the graphic symbols (ibid.). Writing should be introduced once the students no longer “struggle with the control of the speech organs or associating sounds with the graphic representations” (ibid.). Students should exclusively write what they are able to read and only later learn to write with a Chinese brush.

Packard (1990) conducted a two-semester experimental study of college students in which the early instruction group started learning written and spoken Chinese at the same time while another group delayed character learning by four weeks. At week four, the early instruction group had learned 75 characters. Because instruction time was added, the delayed group saw no harm to character learning; in fact, there was no harm in the acquisition of the language because it is the “spoken language, and not literacy, that benefits from the delay in the introduction of character orthography” (ibid.: 174). Packard argued that because “the initial focus on non-phonetic character orthography results in a reduced awareness of the sound

structure of the language”, this delay might let students “first build a foundation in the spoken language, [and] they may develop superior phonological inferencing skills” (ibid.).

Kubler (2001) supported the idea of teaching spoken Chinese before written Chinese, claiming that “in all languages, writing is based on speech ... and the oral skills are for most students even more immediately useful than the written skills” (ibid.: 13). He proposed that priority (60 to 70 % of teaching and learning time) should be devoted to spoken language for beginner learners. Furthermore, Kubler argued that students learned written skills more efficiently when they first learned words for speaking and comprehension and later used them for reading and writing.

A few other researchers presented similar findings for delayed teaching. Allen (2008) proposed to slowly introduce handwriting Chinese, if not totally ignore it. Ye’s (2013) survey study showed the current state of character teaching in the United States and students’ and teachers’ views about whether or not to delay the introduction of characters. Most of the arguments for delaying character learning were based on the speech primacy theory (Unger et al. 1993). This theory uses evidence of native language learning development – children normally speak before acquiring literacy skills – to argue that a foundation in speaking is the premise for developing in reading and writing. The other reason for delaying character learning is that learning to speak, read, and write at the same time would pose a substantial cognitive load on the learners, so they might lose interest and motivation in learning (Wen 1997).

Delay handwriting characters by prioritizing typing. Allen (2008) believed that handwriting was laborious and could damage students’ learning by distracting the students from learning pronunciation and tone well, which was deemed to be fundamental at the beginner level (also see Kubler 2001; Packard 1990; Yin 2006). Because writing too many characters too quickly could contribute to students’ poor handwriting, students should acquire typing skills. Typing to produce characters would “allow the instructor to pay more attention to character formation beyond mere adequacy; classroom time can be used to introduce handwriting principles and learning strategies” (ibid.: 245). Allen called for a “more deliberate, self-paced approach to handwriting” (ibid.) to help students learn all language skills better and lay strong basics that would benefit the learning process. Even though P. Zhang (2021) promoted speaking and typing at the same time, she noted that handwriting could be introduced as a secondary approach to satisfy students’ curiosity. She recommended that beginners avoid prolonged stroke-by-stroke memorization routines and in-depth orthographic explanations (also see Chu 2006).

How long the introduction of characters should be delayed. Researchers have not agreed on the amount of time to delay character introduction (Allen 2008; Kubler 2001; Packard 1990; Walker 1984). For example, Walker (1984) suggested a

delay of 25–30 classroom hours or one or two lessons after teaching character recognition “since it takes more time to acquire the ability to recall characters than to recognize them” (ibid.: 78). Packard (1990) found that a three-week delay resulted in significant improvement in students’ oral skills. Kubler (2001), however, suggested that teachers should not teach characters until after the words they represent have been learned. Kubler concluded that the length of the delay was not important as long as there is a lag. Allen (2008) suggested that character handwriting should be introduced only when the students already had “a solid grasp of the aural-oral system of the language – the accurate reception and production of syllable and tones” and had already “developed recognition skills in reading and writing electronically and practiced them extensively” (ibid.: 247). He stressed that “the longer the delay, the more background and fundamentals the student would have in place on which to build” (ibid.).

4.1.3 Learners’ and instructors’ perceptions and practices of character introduction

Ye’s (2013) study surveyed 914 students and 192 instructors from more than 75 and 124 US post-secondary institutions, respectively. The findings showed that about 85 % of the Chinese programs did not delay character instruction, which aligns with Allen’s (2008) findings that the most widely used CFL textbooks teach writing as early as speaking. About 72 % of the student participants in Ye’s study preferred to learn characters at the beginning of their Chinese study, and 75 % of teachers regarded the ideal introduction timing to be immediately following when learners started to learn spoken Chinese. After the students and the instructors were informed about the pros and cons of whether or not to delay character introduction, their preference over the early introduction lowered only slightly to 67 and 72 %, respectively.

4.2 Theme #2: what should be taught?

The authors of the 16 articles not only concentrated on matters related to the incorporation of character teaching into the curriculum, but also broadened the scope of character learning by encompassing additional elements, some of which pertain to literacy development. These elements include the differentiation between traditional and simplified characters, spacing conventions involving punctuation, word separation, passage organization, written communication formats, typesetting, as well as cultural aspects related to characters or writing. Furthermore, characters were found to be associated with two distinct skills: recognition and production. Within the realm of Chinese character instruction, researchers engaged in a

discourse regarding the selection of components, aspects, and skills to be taught. This section presents a comprehensive enumeration of the components, aspects, and skills pertaining to the Chinese character instruction, as recommended by the researchers across the 16 articles.

4.2.1 Characters

The majority of the articles included discussions focused on five facets of character teaching: traditional or simplified; recognition or production; handwriting or typing; what characters should be first introduced; and how many characters should be taught.

First, the discussion of whether simplified or complex (traditional) characters should be taught occurred in the 1970s when printed texts from mainland China started to come into the US. Cheng (1977, 1978) and Tzeng et al. (1977) agreed on teaching both simplified and traditional characters; however, Cheng (1977, 1978) called for teaching the simplified characters before traditional ones, while Tzeng et al. (1977) insisted that cognitive science and applied linguistics should play the most critical role in deciding whether traditional or simplified characters should be taught first.

Second, disagreements appeared over whether to teach character recognition, production, or both. Chin (1973) insisted that both be required at the beginning of learning. In an informal experiment that examined one group of students who were required to write and another that were not, Chin found that required writing made students write and recognize characters better and that handwriting proved to be a memory enhancer that predicted character recognition and reading performance. This was also found in later studies by Knell and West (2015) and Xu et al. (2013). Yin (2006) proposed to start both writing and recognition at the same time (as a separate track from listening and speaking) but believed beginners needed to recognize the meaning of the character and not its phonetic aspect. Allen (2008), Xu and Jen (2005), and P. Zhang (2021), however, advocated for beginners to only recognize characters.

Third, several scholars agree that typing, rather than handwriting, should be the primary mode for learning character production. Xu and Jen (2005) claimed typing can be regarded as “writing” and can enhance character recognition. P. Zhang (2021) found that typing improved students’ learning in more aspects than stroke-by-stroke handwriting practice. Allen (2008) believed that handwriting consumed too much of beginner learners’ precious time “particularly at the early stages of language learning when the student has no linguistic frame onto which to attach the rote memory” (ibid.: 237). In addition, Allen thought that “opportunities that students will have to practice this skill in any natural fashion are extremely limited in the early (and maybe most) stages of language learning” (ibid.).

Fourth, there are two contrasting views about what characters should be taught. One group proposed to teach students to write (Shen 1958; Walker 1984) or type (Allen 2008; Xu and Jen 2005; P. Zhang 2021) what they are learning to speak, and the other insisted on using separate materials for spoken and written Chinese (Allen 2008; Kennedy 1937; Kubler 2001; Yin 2006). The first group rationalized their view for the following reasons: (a) CFL students could closely “follow the pattern of native acquisition of the writing system by permitting instruction to be conducted solely in Chinese” (Walker 1984: 77); (b) instruction could concentrate on the acquisition and performance of characters without having to deal with students misunderstanding vocabulary and grammar; and (c) students would have a thorough review of previously studied materials.

Allen (2008) laid out four strategies in selecting characters to teach, including “The Lesson One Strategy”, which introduces characters according to the words taught in the textbook lessons (*ibid.*: 246). The purpose of this curriculum design is to develop “the psychological connection between Chinese and its writing system” (Walker 1984: 74). The advantage of this strategy was that the students would only need the textbooks/workbooks to follow the sequence of learning in listening, speaking, recognizing, and producing characters. The main disadvantages of this curriculum design were the lack of “real logic to the introduction of the characters, other than the fiction and choices of the textbook”, and the lack of functionality for any real-world circumstances (Allen 2008: 246).

The second group of scholars presents a variety of justifications for teaching learners different characters compared to those they encounter in learning spoken Chinese. Kubler (2001) found that some of the highest frequency spoken words (e.g., 姓, 昨天, 介绍, 饱) are relatively low in frequency in written Chinese, and vice versa. Kubler (2001) and Allen (2008) suggested that teaching characters should start with those that are frequently used in written Chinese, not those that are frequently used in speaking. Also, because CFL learners can learn spoken words more quickly than written characters, learning characters would slow down their speaking (Kubler 2001; McGinnis 1999). Three of Allen’s (2008) strategies focused on teaching characters that differ from what is spoken. The “Frequency Count Method”, which Allen regarded as the most practical one for teaching, teaches the most frequently used characters. “Functional Writing” teaches practical applications in a natural environment sequenced by frequency and difficulty, such as “signatures, addresses, forms, numbering systems, common inscriptions, love notes, etc.” (*ibid.*: 246). Its advantage was practicality and efficiency in teaching, but it was time and energy consuming in material development.

Finally, Allen (2008) suggested the “Iconic Strategy”, in which well-formed characters are taught with little regard to textbook vocabulary or frequency count. This strategy may help students apply previously learned structural aspects of the

characters to their future character learning. Yin (2006) likewise proposed that students learn a totally separate set of basic characters representative of the different types of characters. He argued that the characters taught should not be what students learned to speak but should show the images and the logical aspects of the character structure. The difference between Yin's (2006) and Allen's (2008) strategies is that the latter suggested that students learn phonetics as well, which Allen concedes "risks separating the process of learning to write from the other three skills" (ibid.: 246).

Fifth, only two scholars recommended a specific number of characters that a beginner should master. Kennedy (1937) wrote, "a properly selected list of 1,200 ideographs may well be expected to cover more than 90 % of any ordinary text and may therefore constitute an adequate working vocabulary" for the first-year learners (ibid.: 592). Yin (2006), on the other hand, suggested first-semester learners should thoroughly master 200 carefully selected characters before merging the two tracks – speaking and writing – he proposed.

4.2.2 Elements beyond characters

Kennedy (1937) first pointed out the distinction between characters and words. He emphasized that in modern Chinese "the ideograph is not always ... the word" (ibid.: 592). A word is "represented by combinations of two or more ideographs in which the meaning of the whole is not always deducible from the sum of its parts" (ibid.: 587). This concurs with the dualism approach proposed by Bellassen (2018), which takes Chinese characters, the primordial element of the language, as the basic unit of teaching, while at the same time acknowledging the strong connection between characters and words. DeFrancis (1968) called for teaching words, which was an even harder task than teaching characters. Kennedy (1937) also pointed out the importance of learning the connected prose that was represented by a combination of words and sentences.

Furthermore, within the same article, certain scholars deliberated on the instruction of *shūmiànyǔ* (書面語) as a natural progression arising from the discourse surrounding the prioritization of which group of characters to be taught. For example, Kubler (2001) suggested that CFL teachers "teach reading and writing via written *kǒutóuyǔ*" (ibid.: 13).¹ In most cases, *kǒutóuyǔ* could be written down in characters, but it is typically only used for direct quotations of people's speech. Therefore, Kubler concedes that learning how to write or read *kǒutóuyǔ* would not

¹ Note: *Shūmiànyǔ* is written language, or literary language. *Shūmiànyǔ* and *kǒu(tóu)yǔ* differ considerably more than in most languages. *Shūmiànyǔ* is more formal than spoken language in Chinese.

equip CFL learners with all the skills needed; however, teaching the concept of *shūmiànyǔ* would help (Kubler 2017; McGinnis 1999). Kubler notes, “the elements of written *kóutóuyǔ* that are also frequently encountered in *shūmiànyǔ* should be stressed” (Kubler 2001: 13).

Some scholars emphasized the importance of making CFL learners aware of the purposes of the written language and what a society does with its written artifacts. For example, Walker (1984) argued that the psychological (literacy aspect) and social (reading aspect) are the two categories of “knowing” a written language. He believed that most of our time was spent on teaching students to recognize characters (literacy aspect), which was the “simplest and most rudimentary stage of learning the written language” and teaching often overlooked “how to use a Chinese text” (social aspect) (ibid.: 70). Therefore, besides teaching students the orthography, i.e., the characters, teaching students to use the written language in society was important as well. Students needed to learn equivalent ways to express themselves for different purposes in written language, to learn how to interpret written texts, and to produce written texts that had a function in society. “All of these exigencies of learning to use modern Chinese texts are more difficult than acquiring characters and are teaching tasks at which we are not so successful” (ibid.).

5 A tentative model for teaching written Chinese to beginners

While acknowledging that the number of empirical studies included in this analysis is limited to five and that some of these studies may have inherent limitations, it is important to highlight the significant progress made in advancing our understanding of character teaching within curriculum design. The collective insights presented in the 16 articles have played a pivotal role in fostering a comprehensive understanding about how we can introduce characters and their closely related elements in a CFL program or in course design. In addition to the 16 articles, there are two curriculum design models proposed by scholars that can serve as additional references for ensuring comprehensive coverage of various aspects of the Chinese characters. It is important to note that these models concentrate on specific issues or target particular audiences, thereby providing valuable insights into some special scenarios of character teaching. Jiang (2017) targeted international CFL learners when she proposed sequencing spoken and written learning, emphasizing character recognition over production, and learning handwriting before typing as a strategy for improving

learning. Chu (2020) proposed a model emphasizing typing over handwriting and called for a systematic study on how to integrate the Chinese writing system into the curriculum. A synthesis of these two relevant models and the findings and discussion of the 16 articles in this project helped form the tentative model proposed in this section.

This tentative model is for beginner students to gain knowledge of the Chinese characters, hone character recognition and production skills while improving listening and speaking skills, gain confidence to function in the Chinese language community, and become lifelong Chinese language learners. The basic concepts used to design this model are: (a) learning spoken Chinese that is not slowed down by the progress of character learning; (b) learning useful typing tools to communicate in social media with native Chinese speakers; (c) laying a solid foundation for character learning that can help learners follow the inner logic of the characters and apply previous learning to future tasks; (d) using character learning to give students an overview and preliminary understanding of the writing system and related culture; and (e) serving as the first step in learning *shūmiànyǔ* and developing reading literacy early in their learning. See Figure 3 for the framework of the proposed model. This tentative model for *Teaching Written Chinese to Beginners* has two features that reflect the design principles. Principle #1: Start speaking and writing at the same time but with two different tracks; Principle #2: The two tracks are designed differently to maximize learning.

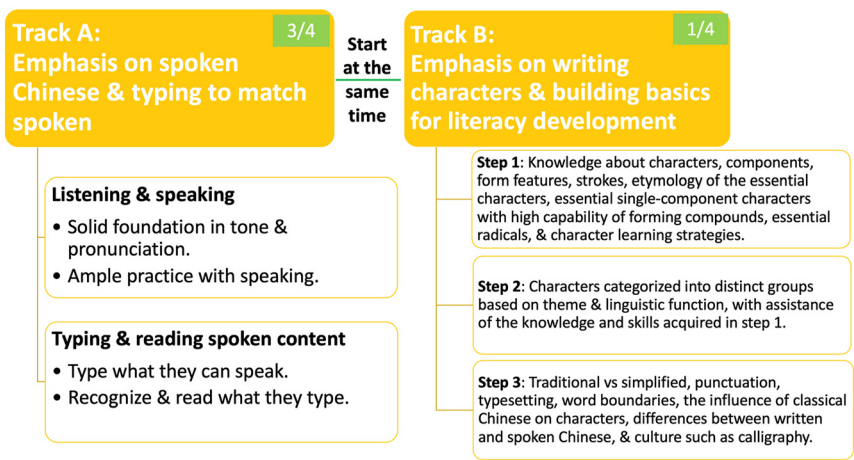


Figure 3: A tentative model for teaching written Chinese to beginners.

5.1 Start speaking and writing at the same time but with two different tracks

Most of the previous studies show that learning the Chinese writing system slows down the learning of speaking and could prevent students from laying a solid foundation in their aural or oral skills. In order to find a way for students to progress in speaking as rapidly as possible, to start using Chinese to communicate with others, and most importantly, to be exposed to the writing system when they start to learn Chinese, the best way is to teach students to use pinyin typing along with speaking and listening and to have a separate track for character learning. Typing needs to match the development of students' spoken language; that is, learners should type what they can speak. This way, the students can focus on learning pronunciation, tone, and pinyin, and at the same time can use typing or speaking to start to communicate in real life.

Introducing Chinese characters as a distinct learning track offers several advantages, including the flexibility for students to progress at their own pace and the opportunity for curriculum design to align with the logical structure of characters and the writing system. Simultaneously, the design of the writing track enables the incorporation of writing-related Chinese cultural elements, laying a robust foundation for students to develop their reading literacy as defined by Walker (1984). Consequently, the writing track does not necessarily need to be integrated with the speaking track, allowing for separate instruction of characters while the emphasis can be placed on frequently used characters in *shūmiànyǔ*, thereby establishing a solid groundwork for future literacy development. When considering the allocation of time for the two tracks, it is crucial to assign different proportions based on their respective importance and learner needs. Given that speaking skills are more frequently employed in daily communication and are typically easier for CFL learners to improve, Track A should be allocated a larger portion of the overall learning time, ideally constituting three-fourths of the total duration. On the other hand, Track B, focusing on the writing system, should occupy one-fourth of the time. This distribution allows for rapid and solid progress in speaking skills, fostering student confidence and motivation to continue their language learning journey. Simultaneously, by establishing a systematic and robust foundation in the writing system, learners will possess the necessary skills to further develop their writing and reading abilities.

The concept of teaching Chinese through two separate tracks for written and spoken language is not new. As far back as six decades ago, DeFrancis (1964), and more recently, Kubler and Kubler (2018), compiled textbooks (such as those published by Yale University Press and Tuttle) that advocated for this approach. Their

textbooks have two versions, one focusing solely on Pinyin without any characters, with the other emphasizing characters without Pinyin. In the character-focused version, similar dialogues as in the pinyin-focused textbook are used for reading and speaking without special attention given to learning the internal connections among characters. These textbooks have not gained widespread adoption in the past few decades. One possible explanation for their limited usage could be the time-consuming nature of these textbooks. Learners were expected to dedicate 7–8 hours of class time to studying them. Additionally, the shift in language assessment standards towards measuring real-world language proficiency and learners' ability to perform practical tasks might have played a role, which requires the interaction between spoken and written language in everyday communication during the language development process. This interaction is compromised when spoken and written languages are taught separately, as observed in the aforementioned textbooks.

In contrast to the two-track model found in textbooks by DeFrancis and Kubler and Kubler, the proposed model presented here addresses those previous challenges. Firstly, it is designed to accommodate the typical four-to-five hour class time format commonly practiced in the US. In a four-to-five hour course, allocating one-to-two hours solely for character learning and preparing for the acquisition of the writing system and writing literacy development is feasible within this timeframe. Secondly, Track A does not solely focus on speaking skills but also incorporates the practice of typing characters. This integration of typing bridges the gap between spoken and written language and facilitates a more cohesive interaction between the two modalities. Furthermore, by emphasizing the inner connections among characters in Track B, learners are able to establish a solid foundation for a comprehensive understanding of the Chinese writing system. Thus, the proposed model not only addresses the constraints of class time but also facilitates a more effective integration of spoken and written language, promoting a better mastery of the Chinese writing system.

5.2 Track A and Track B have different designs to make learning more efficient

In Track A, speaking precedes typing, and typing focuses on what the learners can speak. Typing will enhance speaking since learners will be expected to use the correct pinyin and they will learn words or phrases rather than characters. This will give students an opportunity to recognize homophones and characters that are similar in form. Since learning typing is necessary to communicate when using social media, teaching should include online etiquette that is unique to the Chinese culture.

In Track B, a sequential yet integrated approach can be adopted, free from any pressure related to speaking or typing abilities. Despite the relative independence of Track A, where typing is used for character recognition and production, efforts can still be made to establish connections between the two tracks. Within Track B, learners can be guided to apply their knowledge of characters to their speaking abilities. This integration provides learners with an opportunity to consolidate their learning across both tracks, fostering a comprehensive understanding of the Chinese language and script. In Track B, the following three steps can be taken.

First, the instruction of character knowledge and the development of recognition and production skills can be taught. Strategies for learning characters can be introduced at this initial stage. This step can include the crucial aspects about the characters such as the origin of characters, the uniqueness of Chinese characters, the etymology and evolution of the most important group of characters, i.e., single-component characters that have the highest ability of forming compound characters (Allen 2008; Huang 2005; Yin 2006), the essential radicals, the basics about strokes and stroke order, the shape and structure of characters in general, and the strategies in learning characters via components and radicals (Zhang in press). Examples that can be used to illustrate the learning points in this step will come from the words and sentences that they can speak and type, learned in Track A.

In designing the first step in Track B, one item needs noting. Stroke order should be taught as knowledge, but the stroke-by-stroke rote memorization practice should be reduced or eliminated (Chu 2006; P. Zhang 2021; Zhang in press). In addition, knowledge that is transferable to real-life contexts should be included, such as aesthetics of forms in terms of proportion (internal and external), and stroke sequence (Allen 2008). One of the indications that the students have learned well in this step is that they are able to “produce the proper stroke order and proportions when given a previously unseen character to write” (Allen 2008: 243).

Second, characters can be categorized into distinct groups, allowing learners to acquire characters within these groups. This categorization aids in organizing and systematizing the learning process. Groups can be made based on themes such as animals, human body, habitat, behavior, beliefs, colors, and so on. There can also be groups in linguistics functions, such as classifiers, pronouns, cohesive devices, and so on, since these groups usually share some common features from the perspective of character evolution. Their formation is also unique, and it might be easier to memorize them rather than mixing them with other commonly used characters without grouping. It is also in this step that the learners are ready to learn more about polyphones, homophones, and variants of characters. During this step, learners are requested to use what they have learned in the previous step, and to reflect upon what they can speak and type, therefore connect with Track A.

Third, towards the end of the first year, once learners have acquired knowledge about characters and have studied a few groups of characters, the basic foundations for literacy development can be introduced, such as traditional versus simplified characters, punctuation, typesetting, word boundaries, the influence of classical Chinese on characters, the use of traditional characters in mainland China (Kubler 2017), differences between written and spoken Chinese; and cultural factors related to characters and writing, such as calligraphy. This preparation paves the way for rapid progress in literacy skills in their second year of learning. In designing the three steps in Track B, it is crucial that all the elements of learning should be presented in an engaging way so that students can constantly be engaged in learning and practicing.

6 Conclusions

This study synthesized research related to curriculum design for teaching Chinese characters published from the 1930s to the present. Based on the synthesis, a tentative model for integrating teaching characters into the curriculum was created. This model is preliminary, and it still needs an enormous amount of work to design and develop. The design and development of Track A might be easier compared to the design and development of Track B as current textbooks for speaking might work, but the typing requirements and practices need to be carefully created to make students' typing practice effective and engaging, as Xu and Jen (2005) and P. Zhang (2021) indicated. Track B, with its distinct approach, necessitates the development of specialized teaching materials, which can draw upon existing resources previously published, such as Allanic (2009), Bellassen (1989), DeFrancis (1964), Kubler and Kubler (2018), and Yin and Sun (2018). However, due to the unique nature of Track B, designing and developing materials for this track requires an in-depth understanding of Chinese characters and literacy development. Moreover, the pedagogical strategies employed in teaching Track B should be informed by comprehensive studies conducted on character teaching approaches. These studies should also serve as valuable resources in informing the development of materials for Track B (Zhang in press).

Many practical questions are waiting to be explored. The major ones include, how much content should be developed for Track B? If not all of the proposed contents fit in Track B, what should be prioritized? Is it necessary to merge Track A and Track B at some point, or should they remain two separate tracks? Or should Track B eventually be developed into a reading and writing track focusing on reading and writing *shūmiànyǔ*? If Track A and Track B should be merged, when should that occur?

Indeed, the proposed model raises several important research questions that warrant investigation. For instance, it is crucial to determine the effectiveness of implementing this model in enhancing students’ speaking proficiency, character recognition, and production skills. Additionally, it is important to explore the model’s efficacy for different student populations, such as middle or high school students, heritage learners, and those in immersion programs. An investigation into whether Track B aligns with learners’ expectations and preferences is also valuable. Furthermore, determining the most effective instructional approaches for both Track A and Track B is essential for optimizing student learning outcomes. Certainly, the feasibility and effectiveness of teaching Track B online are important aspects that should be explored. With the increasing prevalence of online learning platforms and the advancements in technology, investigating the viability of implementing Track B in an online setting is crucial.

These research questions highlight the need for rigorous empirical studies in this domain. By conducting robust research, both researchers and practitioners in the CFL field can gain a deeper understanding of how to proceed with confidence. Addressing these open questions will contribute to the ongoing improvement and refinement of CFL instruction.

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Appendix

The 16 peer-reviewed articles

Publ. Year	Author(s)	Journal	Title	Methodology
1937	Kennedy, G. A.	<i>The Modern Language Journal</i>	A minimum vocabulary in modern Chinese	Concept
1958	Shen, Y.	<i>Language Learning</i>	Learning the Chinese script can be easy	Concept
1973	Chin, T.	<i>Journal of Chinese Language Teachers Association (JCLTA)</i>	Is it necessary to require writing in learning characters?	Concept with an informal experiment
1977	Cheng, C. -C.	<i>Journal of Chinese Linguistics</i>	In defense of teaching simplified characters	Concept

(continued)

Publ. Year	Author(s)	Journal	Title	Methodology
1977	Tzeng, O. J. L., Garro, L., & Hung, D. L.	<i>Journal of Chinese Linguistics</i>	Research on Chinese characters: A call for interdisciplinary endeavor	Concept
1978	Cheng, C. -C.	<i>Journal of Chinese Linguistics</i>	Simplified versus complex characters: Socio-political considerations	Concept
1983	Liu, I.	<i>JCLTA</i>	The learning of characters: A conceptual learning approach.	Concept
1984	Walker, G.	<i>JCLTA</i>	“Literacy” and “reading” in a Chinese language program	Concept
1990	Packard, J. L.	<i>The Modern Language Journal</i>	Effects of time lag in the introduction of characters into the Chinese language curriculum	Experimental
2001	Kubler, C. C.	<i>Linguistics Study</i>	Some thoughts on the relationship between spoken Chinese and written Chinese and implications for teaching basic-level Chinese to non-native learners	Concept
2005	Xu, P. & Jen, T.	<i>JCLTA</i>	“Penless” Chinese language learning: A computer-assisted approach	Experimental
2006	Yin, J.	<i>Chinese Teaching in the World</i>	“Proceeding separately and striking together”: A new approach to the teaching Chinese as a foreign language in the United States.	Concept
2008	Allen, J. R.	<i>Foreign Language Annals</i>	Why learning to write Chinese is a waste of time: A modest proposal	Concept
2013	Ye, L.	<i>Foreign Language Annals</i>	Shall we delay teaching characters in teaching Chinese as a foreign language?	Survey
2017	Knell, E. & West, H. -I.	<i>Foreign Language Annals</i>	To delay or not to delay: The timing of Chinese character instruction for secondary learners	Mixed methods
2021	Zhang, P. N.	<i>Journal of Technology & Chinese Language Teaching</i>	Typing to replace handwriting: Effectiveness of the typing-primary approach for L2 Chinese beginners	Experimental

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