Research on the Chinese Character Literacy of International Chinese Teachers in the Era of E-writing

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ABSTRACT

E-writing has changed the characteristics of Chinese character writing, provided a new path for Chinese character teaching, made Chinese character reading and writing easier, and also provided a more effective method for solving the problem of difficult Chinese character learning in international Chinese education. At the same time, international Chinese language teachers are facing new challenges in teaching methods and skills of Chinese characters, and their role is no longer just that of knowledge transmitters, but also that of adopters of new technologies. This article explores the impact of E-writing technology on the Chinese character literacy of international Chinese language teachers based on existing research, and proposes corresponding improvement strategies. Finally, the future prospects of Chinese character literacy for international Chinese language teachers in the era of E-writing were discussed, including the long-term development of teaching models and their impact on international Chinese education.

Keywords: The era of E-writing, International Chinese language teachers, Chinese character literacy, Teaching challenges, Skills enhancement.

1. INTRODUCTION

With the rapid development of technology, the popularity of electronic devices and network technology is constantly increasing worldwide, and the era of electronic writing (also known as "E-writing") has arrived. The characteristics of this era are the digitization, networking, and intelligence of information, which not only change people's lifestyles but also have a profound impact on the field of education. Especially for international Chinese language teachers, traditional Chinese character teaching models and methods are facing unprecedented challenges and changes. The advent of the The era of E-writing requires international Chinese language teachers not only to master solid knowledge of Chinese characters and traditional teaching methods, but also to have teaching abilities that adapt to new technologies and sensitivity to cross-cultural communication, in order to better adapt to and promote the development of Chinese language teaching.

Zhang Suge (2021) proposed that the Chinese character literacy of international Chinese language teachers should include at least five aspects: knowledge of ancient Chinese characters, the relationship between simplified and complex Chinese characters, font knowledge, issues with new and old forms, and aesthetic rules of calligraphy. In order to be competent in teaching Chinese characters, international Chinese teachers should also possess knowledge of pinyin, as well as the ability to flexibly apply the Chinese character knowledge they have mastered to teaching activities, and the literacy to integrate Chinese character culture into Chinese character knowledge teaching. The Chinese character literacy of international Chinese teachers not only affects the quality of teaching, but also relates to the inheritance and promotion of Chinese character culture. This study will explore the impact of the The era of E-writing on the Chinese character literacy of international Chinese language teachers, analyze the current research status and existing

problems, and propose corresponding improvement strategies and future development predictions, in order to provide reference for the quality improvement and sustainable development of international Chinese language teaching.

As an important component of international Chinese language teaching, the core position of Chinese character teaching is obvious. Lu Jianming (2023) proposed that "international Chinese education must attach importance to and strengthen the teaching of written Chinese language", and divide the talents cultivated by international Chinese education into two categories: the true mission is to cultivate talents in two aspects, namely "bilingual or multilingual talents" and high-level and high-quality Chinese talents. This includes not only the requirements for cultivating written language skills for Chinese second language learners at different levels, but also the standards for cultivating the quality of international Chinese teachers. Valuing written language teaching not only requires learners to understand and comprehend the forms of expression in written language, but also emphasizes the cultivation of high-level international Chinese talents, including their ability to express themselves in written language. Otherwise, only "foreign Chinese illiterates" will be cultivated.[1] Chinese characters are different from other pinyin scripts in that their spoken and written language interfaces are not direct, and cannot be directly recognized from pronunciation or spelling. As the interface between the two, Chinese characters require long-term specialized learning. The most effective learning method currently is through teaching or specialized software acquisition, and the results of acquisition not only depend on the psychological factors of learners, but also closely related to the Chinese character literacy of teachers.

Wang Dongying (2023) analyzed research literature on "Chinese character writing teaching" in international Chinese education from January 1, 2000 to December 31, 2022 using CiteSpace tools and scientometric methods. Research has found that the research hotspots in Chinese character writing teaching mainly focus on teaching methods and writing errors, and there has been a significant research peak in the past five years, indicating an increasing importance of Chinese character writing

teaching during this period. In addition, although the teaching of Chinese character writing in international Chinese education did not receive sufficient attention in its early stages, research in this field has increased since the mid to late 1990s and gradually gained attention.

Zhang Jing (2024) conducted quantitative and content analysis on 93 international Chinese character teaching research papers published on CNKI from 2000 to 2023, using CNKI's visual analysis tool and CiteSpace software. The research hotspots and development trends were tracked through keyword clustering and timeline charts. Research has found that since the 20th century, the hot topics in international Chinese education and Chinese character teaching research have included Chinese character teaching theory, teaching methods, textbook research, and learner research. Among them, the theoretical research on Chinese character teaching emphasizes the "introductory stage" textbook writing mode, focusing on the teaching of basic knowledge such as phonetics, Chinese character symbols, and structural grammar; Research on teaching methods focuses on how to utilize the phonetic and phonetic characteristics of Chinese characters to enhance teaching proficiency; Textbook research focuses on the concepts and models of textbook writing, as well as the differences between Chinese and foreign school-based textbooks; Learner research mainly focuses on the analysis of Chinese character errors among international learners.

Previous studies have shown that the teaching of Chinese characters in international Chinese education has received attention from academia and has formed a relatively large-scale research system, as well as new research methods and trends. At present, research on the comprehensive literacy of international Chinese language teachers is becoming increasingly mature. When searching for keywords such as "international Chinese language teachers" and "literacy" on CNKI, it was found that their core mostly points to literacy categories such as "digital", "information technology", and "professionalism". Only Zhang Suge (2021) pointed out that the Chinese character literacy of international Chinese language teachers should be improved; Jin Wanting (2023) conducted an in-depth investigation and analysis of the Chinese character literacy of international Chinese language teachers based on the PCK theory, and proposed corresponding improvement paths. Other research on Chinese character teaching often focuses on the subject of teaching, which is the acquisition of

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1. Zhao Jinming, The "Chinese Language of Speaking" and the "Chinese Language of Seeing" [A]. Zhao Jinming (Editor in Chief), Chinese Oral and Written Language Teaching - Proceedings of the 2002 International Symposium on Chinese Language Teaching [C]. Beijing: Peking University Press.

learners, ignoring the impact of international Chinese language teachers' Chinese character literacy on the effectiveness of Chinese character teaching.

2. REQUIREMENTS FOR CHINESE CHARACTER LITERACY OF INTERNATIONAL CHINESE TEACHERS IN THE ERA OF E-WRITING

2.1 The Core Position of Chinese Characters in International Chinese Education

In the field of international Chinese language teaching, the importance of Chinese characters is self-evident. It not only carries rich semantic functions, but also serves as an indispensable foundation for understanding and using Chinese. Chinese characters occupy a central position in the teaching content of international Chinese teachers, and their importance is reflected on multiple levels.

Firstly, Chinese characters are the fundamental unit for conveying meaning in Chinese language. Unlike pinyin characters, Chinese characters themselves contain rich meanings, not just the representation of syllables. This characteristic requires learners to have basic recognition and reading abilities of Chinese characters in order to achieve effective communication and expression. Therefore, one of the primary tasks of international Chinese language teachers in the teaching process is to guide learners to recognize, remember, and correctly write these Chinese characters.

Secondly, the learning of Chinese characters plays a crucial role in helping learners understand the grammar structure and vocabulary usage of Chinese. Most Chinese characters are independent units of vocabulary. By learning Chinese characters, learners can more accurately grasp the meaning and usage of vocabulary, and thus understand and apply the grammar structure of Chinese. This kind of learning not only helps improve their reading comprehension ability, but also has a significant impact on enhancing their listening and speaking skills.

Thirdly, learning Chinese characters is a way to gain a deeper understanding of Chinese culture. Chinese characters are not only carriers of language, but also deeply rooted in China's history and culture. International Chinese language teachers can use Chinese characters to introduce relevant cultural backgrounds and contexts, allowing learners to not only learn how to read and write characters, but also gain a deeper understanding and comprehension of Chinese culture.

In addition, teaching Chinese characters is also an important way to enhance the literacy of international Chinese language teachers. An excellent international Chinese teacher needs to have a profound knowledge of Chinese characters in order to accurately convey knowledge in teaching, while also stimulating learners' interest in learning and enhancing the effectiveness of teaching.

The emergence of writing is an important turning point for humanity to move from ignorance to civilization. The writing of Chinese characters has a history of 3500-4500 years, and its writing tools and media are constantly evolving. The arrival of the "E-writing" era will inevitably trigger a series of changes. In the early stage of research on Chinese character teaching, whether it was discussing "whole character teaching or component teaching" (Shi Dingguo, Wan Yexin, 1998), "separation of Chinese language and recognition and writing" (Wan Yexin, 2009), "character based" teaching method (Zhang Pengpeng), or studying the "Eighteen Methods of Chinese Character Teaching" (Liu Sheshe, 2004), etc., they mainly focused on the teaching methods of handwritten Chinese characters. In recent years, the research on computer-assisted Chinese character teaching has begun to attract attention from the academic community. Many scholars have used computer technology to study Chinese character writing, the standardization criticism of Chinese characters, and the level testing of Chinese character writing (An Weihua, 2019), focusing on the field of Chinese character teaching related to "E-writing".

2.2 The Impact of E-writing Transformation on Chinese Character Teaching

The transformation of E-writing has made Chinese character teaching no longer have the problem of "complexity". "Writing" has mostly been transformed into "input" and "typing", which makes it easier for learners to learn Chinese characters. At the same time, the development of Chinese character application software can also promote the systematic development of Chinese character teaching, which can provide good auxiliary teaching for learners to master the structure of Chinese characters, the relationship

between components and radicals, and the writing order in the primary stage.

2.2.1 A New Path for Teaching Chinese Characters

Although E-writing has changed the way Chinese characters are written, the transformation of E-writing should not only not abandon Chinese character teaching, but also provide new vitality for Chinese character teaching. Hand writing teaching should be used as a basic means. In the "Symposium on the Necessity and Urgency of the 'E-writing Transformation' in International Chinese Language Education", four non-native Chinese teachers shared their experiences in learning and teaching Chinese. When discussing the necessity and urgency of the transformation of E-writing, they found that it can significantly improve learning efficiency, motivation, and effectiveness because it saves time, reduces the need for modification and editing, and promotes active communication among learners in the learning process. This new teaching method helps to enhance learners' participation and motivation, transforming them from "learning for grades" to "learning for interests", thereby improving learning motivation and effectiveness, meeting the needs of the public, attracting more people to try learning Chinese, and emphasizing the role of teachers in this transformation. Teachers need to update their teaching concepts and methods to adapt to the new mode of E-writing, which puts higher demands on their Chinese character teaching literacy. So how should teachers carry out Chinese character teaching driven by the transformation of E-writing? Chu Chengzhi (2024) proposed a teaching transformation strategy of "E-writing as the mainstay, pen writing as the supplement" in his research. This mode of transformation provides learners with more diverse learning methods and can better stimulate their enthusiasm for independent learning. At the same time, in Chinese character teaching, teachers' Chinese character literacy is more prominent, and the use of technological means to reduce learning difficulty also increases the requirements for teachers' skill literacy. How to use multiple E-writing methods to carry out Chinese character teaching and integrate Chinese character knowledge teaching with Chinese character culture teaching has become an urgent problem to be solved.

Zhai Naigang (2024) analyzed the challenges and countermeasures of Chinese character teaching in the era of E-writing through research on the errors of "E-writing" among Canadian primary school learners. He pointed out that although E-writing brings convenience, attention should also be paid to the learning errors it brings. It can be seen that the transformation of E-writing has brought shortcuts to Chinese character teaching, but there are also negative impacts. The high requirements for pinyin knowledge brought about by software input, "forgetting characters when picking up the pen", confusion in the use of similar characters, and weakened writing ability are all new difficulties that need to be emphasized in Chinese character teaching. The experimental research on the teaching method of "recognizing and writing separately, recognizing more and writing less" proposed by Jiang Xin (2007) provides a new perspective for Chinese character teaching, emphasizing the importance of improving learners' Chinese character recognition and reading abilities while appropriately reducing writing requirements in the era of E-writing. But the difficulty of teaching Chinese characters should not be reduced, let alone the importance of "handwritten" Chinese characters.

In summary, the era of E-writing has provided a new path for Chinese character teaching in international Chinese education, which is to improve teaching efficiency and learners' learning experience through electronic devices as the main writing method. The development of technology has brought about changes in the content and methods of Chinese character teaching, and the accompanying problems cannot be ignored.

2.2.2 The Transformation and Challenges of Teaching Methods

This change is mainly reflected in the transition from traditional pen writing teaching mode to E-writing teaching model. The transformation of E-writing not only changes teaching tools, but also puts forward new requirements for teachers' Chinese character literacy.

Unlike traditional handwritten Chinese character teaching, the transformation of E-writing requires teachers to organize learners more efficiently in the classroom for Chinese character teaching based on electronic input, no longer focusing solely on training strokes and writing order. Lu Jianming (2024) proposed a new teaching model based on Professor Chu Chengzhi's "E-writing as the mainstay, pen writing as a supplement", which is a response to the challenges of teaching in the era of E-writing. His research provides specific strategies for teachers on how to

effectively teach Chinese characters in the era of E-writing, while also pointing out the abilities and qualities that teachers need to possess in this process. Shi Feng et al. (2024) further emphasized the importance of teachers' Chinese character literacy in the era of E-writing, believing that teachers need to master the skills of E-writing of Chinese characters to adapt to new teaching models, and pointed out that this is crucial for improving learners' learning efficiency and effectiveness.

2.3 The Role Transformation of International Chinese Teachers

In the era of E-writing, Chinese character teaching tends to use more electronic means, including typing input on electronic devices, as well as software writing and recognition. Diverse learning modes and methods can enhance learners' awareness of acquiring Chinese characters and increase their interest in learning them. However, it also extends Chinese character teaching from framework, components, and strokes to pinyin teaching, as well as teaching similar and homophonic characters. This greatly enhances the professional knowledge of international Chinese language teachers, especially their ability to reserve knowledge of pinyin and Chinese characters. Teachers should base their teaching on traditional Chinese character teaching models, rely on writing skills as essential skills, and use electronic technology applications as the main classroom teaching method to adapt to new teaching models.

Feng Yu and Wu Hao (2024) demonstrated the effectiveness of E-writing teaching in improving the efficiency of Chinese language teaching and promoting learners' learning motivation through a practical case study at Brandeis University. They also pointed out the potential of E-writing technology in improving the speed of Chinese character teaching. Gao Zhengyuan, Mo Dawei, Frederick J. Poolea, and Liz Carter (2024) emphasized the need for teachers to possess the ability to use new technologies for teaching, in order to promote learners' learning outcomes, by discussing the necessity and urgency of the transformation of E-writing.

With the widespread application of E-writing technology in the field of international Chinese education, the role of teachers has shifted from traditional instructors to users of E-writing technology. The era of E-writing has put forward new requirements for teachers' Chinese character literacy, as well as various explorations on how teachers can optimize teaching effectiveness through technological applications. The potential of E-writing technology in improving teaching efficiency and increasing learning interest also points out that teachers need to continuously improve their technical application abilities in this process to adapt to new trends in education.

3. STRATEGIES FOR ENHANCING THE CHINESE CHARACTER LITERACY OF INTERNATIONAL CHINESE LANGUAGE TEACHERS

3.1 The Main Ways to Improve Teachers' Ability to E-writing Chinese Characters

In the context of the era of E-writing, international Chinese language teachers should focus on improving their personal skills in E-writing of Chinese characters, in order to better adapt to and promote the teaching transformation of "opening the way for E-writing of Chinese characters and following up with pen writing of Chinese characters".

3.1.1 Improvement of Typing Skills

Mastering standard finger techniques is the foundation for improving typing speed and accuracy. Teachers can practice using specialized finger training software or websites such as Typing.com and Keybr.com, starting with basic key familiarity and gradually improving finger flexibility and coordination. Meanwhile, it is necessary to pay attention to choosing the appropriate input method. People can choose an efficient input method based on your own habits and teaching needs, such as Sogou Pinyin Input Method, iFlytek Input Method, etc. Some input methods also support functions such as intelligent association and automatic error correction, which can improve input efficiency. Adopting different input methods, including Pinyin input and Wubi input method can further improve input speed.

3.1.2 Improvement of Word Processing Ability

Firstly, it is to master the word processing functions in office software such as Microsoft Office or WPS Office, such as Word and WPS Text. Students should learn to use styles, templates, automatic numbering, directory generation, and

other functions to quickly and standardly edit teaching documents such as lesson plans, courseware, and test papers. At the same time, mastering skills such as table making, chart insertion, and mixed arrangement of graphics and text can make teaching content more vivid and intuitive.

Secondly, students should also learn typesetting skills, understand the basic norms and requirements of Chinese typesetting, especially learn some advanced typesetting skills, such as column layout, first character sinking, vertical text, etc., to meet the typesetting needs of different teaching contents, and also provide templates and guidance for learners to practice written expression, write papers, etc.

Thirdly, it is also necessary for students to learn multimedia applications, master image processing software such as Photoshop, Meitu Xiuxiu, etc., and be able to crop, adjust, and beautify images used in teaching to improve their quality and visual effects. Students need to understand video editing software and learn to create simple teaching videos, such as Chinese character writing demonstration videos, cultural introduction videos, etc., to enrich teaching resources and forms.

In addition, it is necessary to be proficient in using cloud documents and collaboration tools to achieve multi-device synchronization. In classroom teaching, it is also necessary to improve the skills of using E-writing boards, familiarize oneself with handwriting input functions, and improve the accuracy and fluency of handwriting input by adjusting parameters such as sensitivity and recognition range of handwriting recognition, and integrate e-book writing with teaching software to enhance the fun and attractiveness of teaching.

The learning path of E-writing skills not only requires teachers to master traditional Chinese character knowledge, but also requires them to be proficient in using modern electronic devices for Chinese character teaching. With the continuous development of technology, the Chinese character literacy of international Chinese teachers also needs to be continuously improved to meet the teaching needs of the The era of E-writing. This not only helps improve teaching efficiency, but also enhances learners' learning experience, enabling them to master Chinese characters more flexibly and efficiently.

3.2 Innovation in Chinese Character Teaching Content

3.2.1 Transformation of Teaching Content Design Based on the Characteristics of E-writing

The design of teaching content that combines the characteristics of E-writing refers to designing teaching content and methods that adapt to the new trend of electronic devices as the main writing tool in the digital age, in order to optimize the process and effectiveness of Chinese character teaching. The transformation of Chinese character teaching content includes the reconstruction of teaching design, teaching methods, teaching strategies, and teaching modes.

Due to the rapid development of E-writing transformation, learners' learning goals and strategies have changed, therefore, the design of Chinese character teaching should be reconsidered. Compared to traditional Chinese character teaching, the design of E-writing Chinese character teaching should lean towards pinyin input and phonetic input. In the initial stage, E-writing should be the main method to reduce the difficulty of learning Chinese characters, mainly by teaching spelling rules, input methods, and encouraging learners to try E-writing. This requires Chinese character teachers to prioritize the teaching of pinyin and strengthen learners' knowledge of pinyin in the teaching process. This is a relatively long process, and the International Phonetic Alphabet can be used to benchmark the pronunciation of Chinese pinyin and solidify the foundation of pinyin. As the guide of Chinese character classroom teaching, teachers' knowledge and literacy of International Phonetic Alphabet and pinyin should also be correspondingly improved. Corresponding syllables with Chinese characters in teaching can enhance learners' sense of achievement and achieve a dual approach of teaching pinyin and Chinese characters. Chinese character teaching that relies on voice input should strengthen learners' oral pronunciation ability, making voice input more accurate and efficient. The rapid development of information technology is accompanied by a high degree of individual liberation, which also requires customized personalized learning resources in Chinese character teaching. Personalized learning resources should be tailored for students based on factors such as age, learning level, learning style, and interests.

For the transformation of teaching methods and teaching content, it is necessary to transform from a focus on single lectures to interactive teaching and the cross use of multiple digital platforms, thus achieving digitalization of teaching methods and changing the extension of teaching content. There is a must to utilize existing learning and input software to develop ways for learners to communicate and learn independently, encourage learners to use the associative function of input methods, including commonly used input method automatically saved word banks and lexicons, to broaden the content of classroom teaching. This leads to the continuous expansion of the scope of classroom teaching, resulting in knowledge content that was originally beyond the teacher's expected range. For example, using the Sogou input method to input the character "I", based on the associative function, each learner may generate different related Chinese characters. In this case, teachers need to explain the associative content provided by the input method, strengthen the content related to the teaching outline, and summarize errors in parts that do not comply with Chinese grammar norms, truly enabling learners to "draw analogies" in the electronic Chinese character writing classroom.

For increasing project-based learning in classroom teaching, teachers can design project-based learning activities with Chinese characters as the theme, allowing students to collaborate to complete a specific project, such as creating a handwritten report on Chinese character culture, shooting a short video introducing the evolution of Chinese characters, etc. During the project implementation process, students need to apply their knowledge and skills of Chinese characters to collect data, create content, and present reports, in order to improve their comprehensive abilities and teamwork spirit.

For the interdisciplinary integration teaching, there is a must to integrate Chinese character teaching with other disciplines, such as history, art, music, etc. In history class, teachers can explain the development process and historical background of Chinese characters; In art class, teachers can let students learn the calligraphy art and font design of Chinese characters; In music class, teachers can encourage students to experience the rhythmic beauty of Chinese characters through songs, folk songs, and other forms, thereby broadening their learning horizons and enhancing their interest in learning.

In addition, the teaching model should no longer be limited to classroom teaching. The assignment and completion forms of homework have become more diverse in the era of E-writing. Online submission of homework has given rise to a form of written homework that is different from traditional Chinese character teaching. Teachers can use online digital means to enrich the content of homework, including supporting learners to recite, form words, and make sentences using electronic Chinese characters. Intermediate and advanced learners can recite articles, poems, songs, or interpret difficult texts, and explore the evolution process of a certain Chinese character shape.

In recent years, the emergence of Large Language Models (LLMs) for artificial intelligence has also had a certain impact on Chinese character teaching. Text generation guided by instructions requires users to issue relevant instructions correctly and in detail. This situation still requires learners to have the ability to express themselves accurately in Chinese and to distinguish the correctness and professionalism of AI generated content. The ability to recognize, read, and understand Chinese characters remains the core part of Chinese character teaching. Teachers no longer rely solely on pen writing to assess students' written expression ability, but also need to judge learners' mastery of output instructions while learning to use Chat GPT, in order to adjust the content of teaching modules.

It should be noted that the explosive development of AI technology has also brought opportunities for the diversification of teaching models. For example, for the deep development and application of intelligent teaching system, it is necessary to utilize artificial intelligence and big data technology to develop a more intelligent Chinese character teaching system. Real-time correction and guidance of students' oral expression and written content can be achieved through speech recognition and natural language processing technology; Based on students' learning progress and characteristics, it is also necessary to intelligently push personalized learning content and practice questions to improve learning efficiency. Teachers should create an immersive virtual reality (VR) Chinese character learning environment, allowing students to feel as if they are in ancient study rooms, calligraphy exhibitions, and other scenes. Through interacting with characters in the virtual scene, completing tasks, and other methods, students can learn the history, culture, and writing skills of Chinese characters. For example, using

augmented reality (AR) technology to present the evolution process of Chinese characters in the form of 3D animation to students can make abstract knowledge more intuitive.

With the popularization and development of E-writing technology, the design of teaching content in the field of international Chinese education needs to keep pace with the times, fully utilizing the characteristics of E-writing to design teaching plans and course content, in order to improve teaching effectiveness and learners' learning efficiency. Through continuous exploration and practice, learners' Chinese character abilities can be effectively improved, while also providing new perspectives for the inheritance and development of traditional writing skills.

3.2.2 Integration and Communication of Chinese Character Culture

The era of E-writing has changed the existing teaching model of Chinese characters. Digital teaching methods and online media platforms have transformed the teaching content of teachers. The Chinese character teaching process that relies on pinyin input method and voice input can greatly improve learners' learning efficiency in the initial stage of Chinese character learning, weakening the cognitive process of Chinese character structure. Based on this, the original focus of Chinese character teaching, stroke order, stroke and component teaching, is easily overlooked. The reduction of blackboard demonstration content will also affect learners' learning of Chinese characters and even Chinese in the later stage.

As advocated by Mr. Lu Jianming, the teaching philosophy of Chinese characters is to "open the way with electric typing and follow up with pen writing"[2]. When learners start to encounter written language and commonly used literary genres, E-writing can only serve as a tool and means to lay the foundation for learning Chinese characters. This is because Chinese characters are not only simple ideographic symbols, but also a key to deeply understanding Chinese culture and experiencing the core connotations of the Chinese nation. "Chinese characters are an independently developed and unique writing system in the world, and their construction principles and forms embody the cultural crystallization of the Han ethnic group... The writing system created by the Chinese nation with a long history has now become a symbol of the nation."[3] From this, it can be seen that when learners' Chinese proficiency reaches the intermediate to advanced level (HSK4-9), simply teaching Chinese characters through E-writing will not be able to meet their requirements for learning Chinese characters. As a high context language, Chinese and the ethnic culture behind Chinese characters cannot be solved solely through E-writing teaching.

Therefore, Chinese character teachers should focus on enhancing their knowledge of Chinese character culture, combining Chinese character teaching with Chinese character culture teaching to meet the requirements of high-level learners, and do a good job in spreading excellent Chinese culture.

The research of scholars such as Chen Xiaofan (2022), Tian Kan (2023), and Wang Huijie (2016) shows that the cultural factors of Chinese characters have a multifaceted impact on Chinese character learning, including the influence on the learning process, emotional factors, and learning environment. For example, Chen Xiaofan's research suggests that accurate application and interpretation of Chinese character cultural knowledge by Chinese language educators can help learners clarify the difficulty level of learning content and improve literacy efficiency. Tian Kan emphasized the importance and practical strategies of cultural teaching, and stressed the need to deeply explore the cultural values behind Chinese characters in Chinese character teaching. Wang Huijie's research emphasizes the importance of integrating cultural factors into the teaching of Chinese characters as a foreign language, believing that this can not only enhance the interest and scientificity of teaching, but also promote learners' understanding of Chinese culture.

In addition, the research of Yu Yi (2016), Zhao Yanmei, and Wang Aiping (2014) also emphasizes the importance of Chinese character cultural literacy in teaching, pointing out that integrating the cultural connotations of Chinese characters into teaching can not only enhance learners' interest in learning, but also promote their deep understanding and memory of Chinese characters. These studies collectively indicate that the Chinese character

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2. Lu Jianming, "Electronic Writing Takes the Lead and Hand-writing Follows Up": Reforming the Model of Teaching Chinese Characters in International Chinese-language Education [J]. Journal of Yunnan Normal University(Teaching & Studying Chinese as a Foreign Language Edition), 2024, (04): 1-5.

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3. Lu Xixing, Chinese Folk History [M]. Beijing： Commercial Press, 2019：1-2 11.

literacy of international Chinese language teachers is closely related to how they handle the cultural dimensions of Chinese characters, which not only affects the effectiveness of teaching, but also influences learners' attitudes and interests towards learning Chinese characters.

Entering a new era of teaching reform, teachers' cultural literacy in Chinese characters also has a profound impact on Chinese character teaching. Understanding and analyzing the methods of Chinese character creation can help teachers better distinguish Chinese characters with similar shapes and sounds for learners in the process of E-writing, truly expanding the scope of teaching content. For Chinese characters with the same components or radicals, teachers can demonstrate the origin and evolution of their shapes based on traditional Chinese character teaching methods, which can effectively improve teaching effectiveness.

Teachers with higher Chinese character cultural literacy will also demonstrate higher cultural confidence. The cultural confidence of teachers refers to their familiarity and sense of identification with the cultural content of Chinese characters they impart. This confidence directly affects the depth and breadth of teaching, which in turn affects students' learning outcomes and their understanding of Chinese culture.

Chen Wan (2021) analyzed the current situation of international Chinese language teachers' abilities through questionnaire surveys and interviews, and found that teachers' teaching abilities directly affect teaching effectiveness, including their understanding and teaching ability of Chinese character culture. In addition, Jin Wanting (2023) conducted a survey on the Chinese character literacy of international Chinese language teachers from the perspective of PCK theory and found that teachers' Chinese character teaching literacy has a significant impact on teaching effectiveness, and there is room for improvement in teachers' professional knowledge and teaching abilities.

Furthermore, the study by Zhang Likun and Liu Congru (2024) pointed out that the Chinese cultural literacy and cross-cultural communication ability of Chinese language teachers as a foreign language are crucial for teaching quality, and teachers' cultural confidence is a key factor in improving teaching effectiveness. Meanwhile, Zhang Yingbao's (2019) research also emphasizes the impact of teachers' research literacy on teaching practice, including teachers' cultural confidence and deep understanding of Chinese character culture. The

cultural confidence of teachers not only affects the depth and breadth of their teaching, but also relates to students' understanding and learning outcomes of Chinese culture. Therefore, enhancing teachers' cultural confidence is an important way to improve the quality of international Chinese language teaching.

Therefore, while focusing on teachers' E-writing skills and Chinese character knowledge literacy, the importance of Chinese character cultural literacy should also be emphasized, truly enabling every international Chinese teacher to "tell the story of China well" and become a disseminator and advocate of knowledge and culture.

4. CONCLUSION

The arrival of the era of E-writing has brought new developments and controversies to international Chinese education and teaching of Chinese characters. The diversification of Chinese character teaching methods and the transfer of teaching objectives should not come at the cost of "lowering the threshold for Chinese characters". As the foundation of Chinese language learning, teaching Chinese characters remains a top priority in international Chinese education. Under this premise, the requirements for teachers' Chinese character literacy are also undergoing a transformation. The role and abilities of international Chinese language teachers need to keep up with the times and constantly adapt to new teaching models and technological requirements. It can be foreseen that teachers' Chinese character literacy is no longer limited to the ability to break down Chinese characters and lead students in traditional training in listening, speaking, reading, and writing Chinese characters. It also requires teachers to master various skills related to E-writing of Chinese characters, improve teaching modes, adjust teaching strategies and objectives. Through continuous learning and practice, teachers can better guide learners to adapt to this digital learning environment, while also improving their Chinese character literacy and teaching effectiveness. The era of E-writing has put forward higher requirements for the Chinese character literacy of international Chinese teachers, and future research in this field is expected to provide more theoretical support and practical guidance for the development of international Chinese education.

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