

# Exploration and Practice of Chinese Character Teaching in International Chinese Education Empowered by Digital Intelligence

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## ABSTRACT

This article explores the role of national policies in promoting digital and intelligent education, proposing to advance the personalized and intelligent development of Chinese character teaching by improving top-level design, constructing smart classrooms, sharing teaching resources, and enhancing teachers' digital literacy. It emphasizes that when applying digital technology, attention should be paid to cultural dissemination and cross-cultural communication, ensuring that technology serves to enhance the quality of education.

**Keywords:** *Digital and intelligent empowerment, International Chinese education, Chinese character teaching.*

## 1. INTRODUCTION

In order to proactively adapt to the profound transformation of global learning methods and serve the strategy of opening up education in the new era, China has completed a systematic blueprint for the digital and intelligent transformation of international Chinese education from the top-level national design level. In 2024, the "Outline for the Construction of a Strong Education Country (2024-2035)" issued by the CPC Central Committee and the State Council explicitly listed "exploring digital empowerment and large-scale individualized teaching" as the core path for innovative teaching. On this basis, in 2025, the "Opinions on Strengthening the Construction of Digital Chinese and Promoting the Development of Language and Character Informatization" jointly issued by the Ministry of Education, the National Language Commission, and the Central Leading Group for Cyberspace Affairs further outlined a two-step strategic plan for "orderly achieving the goals of language and character informatization development by 2027 and 2035". These two programmatic documents jointly provide fundamental guidance and action guidelines for the construction of digital and intelligent international Chinese education courses: that is, it is necessary to rely on cutting-edge technologies such as artificial

intelligence and big data to systematically reconstruct course models and teaching ecosystems, promote the transformation and upgrading of international Chinese education from traditional standardized supply to large-scale personalized and intelligent education paradigms, and effectively support the grand goal of national language and character informatization development through high-quality digital practices in language education.

Currently, significant progress has been made in empowering the construction of international Chinese education courses with digital intelligence. With the international Chinese education section of the "National Smart Education Platform" and the "Global Chinese Learning Platform" as the core, a digital public service system has been established, which brings together a vast array of high-quality courses and covers learners worldwide. The Chinese Learning Alliance Cloud Service Platform has partnered with over 1,600 institutions, providing more than 30,000 online course resources, and has initially achieved the global integration and sharing of high-quality teaching resources. However, it must be clearly recognized that empowering the construction of international Chinese education courses with digital intelligence still faces numerous deep-seated challenges and bottleneck constraints.

In the practice of international Chinese education, Chinese learners often perceive "Chinese as difficult", but the actual difficulty mainly lies in Chinese characters. Chinese characters are ideographic, and their pronunciation cannot accurately reflect their form. It is impossible to fully associate pronunciation with the form of a character. The meaning of Chinese characters is even more complex, and they also contain profound culture. In the beginning of teaching, pictographic methods are used to enhance learning interest. However, as the learning content deepens, Chinese learners' fear of difficulty will also increase. Even if they can recognize and read, they may not be able to write. In fact, the quantity and quality of Chinese characters mastered directly determine the level of written Chinese. "Only by mastering written Chinese can foreign Chinese learners be considered to have truly learned and mastered Chinese." If they cannot master Chinese characters, they will find it difficult to learn Chinese independently, which may ultimately lead them to give up learning Chinese.

Entering the digital and intelligent era brings good news to the teaching of Chinese characters, which has always been a weak link. Digital technology can provide a more personalized and flexible learning experience for international Chinese education in teaching Chinese characters, based on the "characteristics of Chinese characters" and "the needs and perspectives of learners". It helps to improve teaching quality and efficiency. Through the application of digital teaching resources, online teaching platforms, and multimedia educational tools, the richness of teaching content and the diversity of teaching methods can be achieved, meeting the needs of different learners and helping to solve the problem of "the difficulty of Chinese".

## **2. IMPROVING TOP-LEVEL DESIGN AND PROMOTING THE CONNOTATION CONSTRUCTION OF CHINESE CHARACTER TEACHING**

On the one hand, efforts should be made to leverage the implicit cultural function of language and text. The exploration of the ideological value and connotation of Chinese characters, as well as the construction of their system, needs to be closely linked to reality and subjected to in-depth theoretical analysis to ensure its full demonstration in terms of philosophical height, ideological depth, and value connotation, thereby better leveraging the

function of language and text in educating people. At the same time, this process is of great significance in serving the construction of China's independent knowledge system, enhancing the discourse power of Chinese language and culture in external communication, telling Chinese stories well, serving the construction of a community with a shared future for mankind, participating in global language governance, and strengthening bilateral and multilateral language and cultural exchanges with other countries and international organizations.

On the other hand, by integrating knowledge from linguistics, education, and intercultural communication studies, and adopting interdisciplinary research methods, it is aimed to explore digital-enabled teaching models, theories, and practices for Chinese characters, thereby enhancing the connotation of Chinese character teaching. In terms of teaching models, the three essential elements of Chinese characters must be achieved through the four stages of "recognition, reading, writing, and memorization". To help Chinese learners reduce the difficulty of writing and avoid giving up on learning Chinese halfway during the initial stages of learning, the academic community has proposed a teaching model for "electronic writing of Chinese characters" in recent years. In 2024, Lu Jianming proposed a teaching model that involves "electronic typing of Chinese characters first, followed by pen writing". Based on this, adhering to the teaching philosophy of "advancing both Chinese language and culture", and according to the actual Chinese character proficiency of students, teachers can employ the strategy of "rational literacy" to integrate digital technology with the theory of the "Six Principles" and the theory of Chinese character formation, allowing Chinese learners to understand the motivation and structural characteristics of Chinese characters. In terms of teaching practice, international Chinese teachers should dare to break through existing teaching models, boldly explore the integration of new technologies with international Chinese teaching, and promote digital standards for Chinese character writing, acquisition, and evaluation systems.

### **3. LEVERAGING DIGITAL INTELLIGENCE TO EMPOWER AND BUILD A SMART CLASSROOM FOR CHINESE CHARACTER TEACHING**

The digital intelligence-empowered Chinese character smart classroom provides an open learning environment, utilizing digital intelligence platforms and mobile devices for cognitive construction, display, and exchange among Chinese language learners. International Chinese teachers construct a coherent system of Chinese character knowledge based on the "International Chinese Education Chinese Proficiency Standards", mapping knowledge and various associations between Chinese characters. This provides a comprehensive learning environment for Chinese learners, both online and offline, within and outside the classroom, supporting them in practicing "reading" and "listening and speaking" of Chinese characters at any time and in any space. Through intuitive methods, learners can perceive the similarities and differences between Chinese characters. With the aid of sound wave visualization, issues and deficiencies in mastering Chinese character syllables are analyzed, helping to correct pronunciation errors and enhance the ability to spell and read Chinese characters. The learning behaviors and performances of Chinese learners are recorded, and real-time feedback and suggestions are provided through error analysis of Chinese character writing and recognition by large models.

Digital intelligence empowers the creation of a smart Chinese character classroom, creating a connected learning environment that breaks the constraints of time and space, achieving consistency between learning content and real-world work scenarios. It breaks down the barriers between Chinese character knowledge and practical life, enabling "cloud shopping", "cloud visiting" museums, and more. It guides Chinese learners to use social media platforms such as Weibo, WeChat, and QQ to communicate and interact with more Chinese speakers using Chinese and Chinese characters. It organizes flexible and diverse online discussion forums, stimulating students' learning enthusiasm through methods such as attracting fans and gaining likes. This helps learners fully immerse themselves in the Chinese language context, transitioning from theoretical learning to practical application of Chinese characters. By leveraging the immersive, engaging, and intelligent features and advantages of digital technology, it enhances

the immediacy and effectiveness of Chinese character learning, fostering the development of a Chinese expression mindset.

### **4. DEEPENING CONNECTIVITY AND INTEGRATION, AND PROMOTING THE CO-CONSTRUCTION AND SHARING OF CHINESE CHARACTER TEACHING RESOURCES**

In the digital era, traditional Chinese character teaching content often fails to directly meet the needs of digitalization, which requires us to redesign and restructure the course content. Currently, some existing Chinese character teaching resources exhibit a decentralized characteristic and have not yet formed an efficient and unified integration and sharing mechanism. In promoting digital and intelligent empowerment of Chinese character teaching, it is necessary to integrate knowledge and resources from multiple fields such as information technology, education and teaching, and subject expertise. This also means that close cooperation and collaboration across departments, disciplines, and countries must be carried out. Therefore, there is a must to further strengthen communication and cooperation with relevant domestic and foreign institutions, jointly develop online Chinese character courses, local textbooks, etc., cooperate in teacher training and development, support Chinese and foreign institutions and teachers to carry out normalized "cloud teaching and research", and explore localized Chinese character teaching resources based on the learning situation of the student's country of origin.

It is necessary to actively develop online Chinese character teaching resources such as micro-courses, short videos, and MOOCs, enrich and expand digital and intelligent Chinese character resources, such as developing multimedia software that integrates images, text, and audio, launching mobile literacy applications, and building a Chinese character corpus database. At the same time, through mini-programs, QR codes, etc., it is also necessary to promote the "Internet plus" upgrade of Chinese character teaching, ensuring the smooth implementation of a learner-centered and personalized teaching model. There will be a necessity to actively promote the development of adaptive learning and testing products, strive to provide learners with instant and intelligent solutions, gradually build a full-chain online

learning and testing system that spans "form, sound, and meaning", cultivate a new ecosystem for online and offline Chinese character learning, and meet the high-frequency learning requirements of Chinese character teaching. There will also be a necessity to expand the sharing scope of digital Chinese character teaching resources, enhance the service ability of digital and intelligent Chinese character teaching, and present a new pattern of Chinese character teaching.

## **5. STRENGTHENING TEACHER DEVELOPMENT AND ENHANCING TEACHERS' DIGITAL LITERACY**

International Chinese teachers possess diverse professional backgrounds, and there are significant differences in their mastery of Chinese character knowledge and their abilities and skills in imparting this knowledge to Chinese language learners. For mastering Chinese character knowledge, the focus lies in understanding the principles of character formation, the development and evolution process, and the relationship between simplified and traditional characters. In terms of imparting abilities and skills, it is mainly reflected in providing more personalized and precise Chinese character teaching services for Chinese language learners with diverse needs. Therefore, it is necessary to construct and improve a matching mechanism between the cultivation and demand of Chinese language and literature talents based on the "Professional Competence Standards for International Chinese Teachers" issued by the World Chinese Language Teaching Association in 2022, and focus on building a talent team with sufficient scale, quantity, and first-class ability and quality.

From the basic level to the advanced level, the number of Chinese characters that can be read gradually increases, with a total of about 3,000 characters to be recognized. It should be noted that learning to read and write Chinese characters does not require simultaneous learning. At the advanced level, the total number of characters that can be written is about 1,200. This means that, firstly, international Chinese teachers should master the strokes, stroke order, radicals, and the combination of sound, form, and meaning of at least 1,200 Chinese characters. Secondly, for Chinese learners at different stages, international Chinese teachers can skillfully utilize modern information technology based on students' interests and characteristics, actively explore the online-offline

blended design and development of courses, fully implement integrated teaching that spans before, during, and after class, and seamlessly apply research results on the ontology of Chinese characters in the digital teaching environment. This will enable Chinese character teaching to truly achieve depth offline and breadth online, and enable Chinese learners to be interested in class and explore outside of it.

## **6. CONCLUSION**

When new technological paradigms are integrated into the field of education, people should actively embrace and actively practice them while maintaining a rational examination and critical thinking attitude. In the process of fully embracing the transformative potential of digital technology for Chinese character teaching in international Chinese education majors and promoting empowerment practices, it is also necessary to clearly recognize and cautiously deal with its potential risks and challenges, avoiding falling into the cognitive misconception of "technological omnipotence". The application of digital technology must fully consider the cultural dissemination attributes and cross-cultural communication characteristics of international Chinese education. In language teaching and cultural infiltration, the forms of technology intervention, content presentation methods, and interactive design schemes must respect cultural diversity, be vigilant against potential cultural bias issues, and guard against the risk of further exacerbating the digital divide. In the whole process of promoting digital empowerment, it is necessary to uphold the concept of open innovation and establish a normalized evaluation and reflection mechanism to ensure that technology application always serves the core goal of improving teaching quality and optimizing talent cultivation effects, ultimately achieving harmonious coexistence and sustainable development between technology and education.

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