

# Exploring the Integration of International Chinese Education and Artificial Intelligence from the Perspective of Foreign Students

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## Abstract

The integration of international Chinese education and artificial intelligence based on the perspective of foreign students can be carried out from the following aspects: firstly, artificial intelligence can help foreign students recognize the semantics of Chinese characters; secondly, artificial intelligence can help foreign students master the pinyin of Chinese characters; thirdly, artificial intelligence can help foreign students master the writing of Chinese characters; fourthly, artificial intelligence can help foreign students understand Chinese universities, Chinese language textbooks, exercise books, etc.; fifth, artificial intelligence can help foreign students prepare for the HSK proficiency test. The integration of artificial intelligence in international Chinese education has great potential.

## Keywords

International Chinese Education, Artificial Intelligence, Big Language Model, Integration Method, Foreign Students

## 1. Introduction

After the launch of the language model Deepseek in January 2025, it quickly attracted widespread attention. The language model belongs to the field of artificial intelligence, and in addition, humanoid robots will appear in the dance at the 2025 Spring Festival Gala, which has aroused people's enthusiasm for artificial intelligence. So, how can international Chinese education be organically integrated with artificial intelligence? Previous studies mainly include He Yan (2023) [1], Chen Shuo (2024) [2], Chen Yue (2024) [3], He Wei, Zhang Wenji (2024) [4], etc. However, these achievements did not involve exploring the integration of international

Chinese education and artificial intelligence from the perspective of foreign students, and were mostly published before the emergence of the language model DeepSeek. So, from the perspective of foreign students, how can international Chinese education and artificial intelligence be integrated? For many years, the author has been conducting Chinese language education and teaching practices for international students studying in China. Based on this, the author will answer this question from multiple perspectives.

## **2. Analysis of the Fusion Path between the Two Parts**

1) Artificial intelligence assists foreign students in recognizing the semantics of Chinese characters. This is the semantic aspect of Chinese characters. A major challenge for foreign students learning Chinese is seeing Chinese characters without knowing their semantic meaning. The use of artificial intelligence can help solve this problem. Artificial intelligence can be used to develop corresponding intelligent agents, allowing foreign students to constantly reproduce these Chinese characters and deepen their impressions. International students studying in China usually have a lot of electronic products, such as tablets, mobile phones, etc. This can precisely leverage the advantages of their electronic products.

2) Artificial intelligence assists foreign students in mastering the pinyin of Chinese characters. This is about the pronunciation of Chinese characters. Although there are a large number of phonetic and ideographic characters in modern Chinese characters, compared to pinyin characters, Chinese characters are generally semantic rather than phonetic characters. Practice has proven that when foreign students see Chinese characters, they not only do not know the semantics of the character, but also often do not know how to pronounce it. Perhaps some people may say that some common Chinese characters can be read by foreign students, right? In fact, this is not the case, because foreign students will not only encounter some everyday Chinese characters, but also see uncommon Chinese characters. Moreover, even Chinese people will still encounter many unreadable Chinese characters when they are old. They still need to look up a dictionary or dictionary to know their pronunciation. For novice foreign students with limited Chinese proficiency, this is a difficult task. Perhaps some people will still say that there are a large number of phonetic and phonetic characters in Chinese characters, which can be analogized? Actually, not all situations can be analogized. For example, the character “li” is pronounced as “li” when used alone, but when combined with the character “tu” to form the character “la”, it is pronounced as “la”. Artificial intelligence also has great potential in this regard. Artificial intelligence can develop software that, through voice output, allows foreign students to see this character and output its pronunciation for training and improving learning outcomes.

3) Artificial intelligence assists foreign students in mastering the writing of Chinese characters. This is the aspect of Chinese character shapes. Chinese characters are a major obstacle for foreign students learning Chinese, mainly due to their difficulty in mastering the writing of Chinese characters. There are various mani-

festations, one of which is the wrong stroke order. The second is writing the wrong strokes. There is no major problem with the stroke order and strokes of the three strokes, but the relative position between the strokes is not very good. If the different components in Chinese characters are too far apart or the heights of different components are not coordinated. There are many reasons for this phenomenon, including that for foreign students, Chinese characters are often just a picture, and the characters themselves do not tell people which stroke to write first and which stroke to write later; What is the relative positional relationship between these strokes. This has caused many foreign students as beginners to “draw” Chinese characters based on their own imagination, resulting in various situations. For example, some strokes should be written from left to right, while foreign students often write from right to left. Artificial intelligence can develop applications that output dynamic graphics for foreign students to imitate and practice writing. It can even develop inspection functions to check the Chinese characters written by foreign students. If they are written correctly, they will provide feedback. If not, they will prompt foreign students to correct their mistakes, point out where they made mistakes, and guide them to practice repeatedly to master them.

4) Artificial intelligence recommends corresponding Chinese universities, Chinese language textbooks, exercise books, etc. to foreign students. In years of teaching practice, the author has realized that many foreign students are not very familiar with the books and materials available for learning Chinese. These foreign students themselves also want to know, and even appeared during class when a foreign student suddenly walked up to the teacher with their phone and asked if the information they found online was the one the teacher said, to confirm. Artificial intelligence can develop corresponding programs to implement these functions. Some international students studying in China are not for short-term studies, but hope to pursue further education in Chinese universities, such as choosing to study at trade or law universities. These foreign students also want to know which Chinese universities are available for selection. All of these can be better achieved with the help of artificial intelligence.

5) Artificial intelligence assists foreign students in Chinese exercises, correction, and error correction. Practice has shown that most international students who come to China from afar, even thousands of miles, are really here to learn something. Therefore, many international students who come to China will cooperate with their teachers to do exercises. Teachers who carry out international Chinese education often correct homework submitted by foreign students, but mostly through static checkmarks or giving a score or grade level. Foreign students need to know more about where they made mistakes in their homework. In fact, in areas where mistakes are made, foreign students can learn more by correcting and practicing. In other words, learning is actually a process of constantly making up for weaknesses. By constantly making up for weaknesses, one's own level will continue to improve. Artificial intelligence happens to play a role as a teaching and learning assistant in this area. Artificial intelligence can be dedicated

to developing corresponding intelligent agents to assist foreign students in correcting homework errors and creating new exercises with similar knowledge points for foreign students to practice, consolidating their mastery of these knowledge points and enhancing learning outcomes.

6) Artificial intelligence assists foreign students in preparing for the HSK. As mentioned earlier, many foreign students study Chinese to find jobs or pursue further studies in Chinese universities. And looking for a job is often to find a job related to Chinese people, because in the countries where these foreign students live, jobs related to Chinese people are often better paid. In reality, whether they find these jobs or pursue further studies in Chinese universities, these students are often required to pass the corresponding HSK. HSK stands for Chinese Proficiency Test. For example, to apply for a degree from a university in China, one must have a corresponding level of HSK proficiency. Because if one's Chinese proficiency is not sufficient when studying and writing a Chinese thesis, they cannot successfully complete their studies. This is an objective requirement. Artificial intelligence can develop corresponding programs to meet these requirements. These programs can introduce the knowledge points, question types, and how to solve HSK questions. Foreign students have a strong need in this regard. The prospects for the application of artificial intelligence in this field are broad.

Although these aspects may already exist individually on some web pages or mini programs online, it is rare to see them fully integrated as a platform for foreign students to use in learning Chinese. Moreover, the original web pages or mini programs still have more or less room for improvement in terms of intelligence. If artificial intelligence can better intervene in these aspects, it will have great potential.

In addition, artificial intelligence has many application scenarios in the field of international Chinese education. Compared to the technologies developed by artificial intelligence, these are actually not very difficult. The reality gap is that engineers engaged in artificial intelligence research and development often have little understanding of the needs in the international Chinese education field. People engaged in international Chinese education often lack knowledge of artificial intelligence research and development technology, leading to a gap between the two. In addition, the combination of the two is often not something that can be developed by one person. Often, related enterprises or institutions intervene, invest corresponding manpower, material resources, and financial resources, and continue to make efforts.

Of course, if not taken seriously, artificial intelligence may also have potential limitations. For example, if foreign students focus too much on electronic devices such as tablets and practice writing Chinese characters with a pen and paper, it is difficult for them to master the stroke order and strokes of Chinese characters, often resulting in various errors and making it difficult to leave a deep impression. For example, if too much equipment technology is used in Chinese language teaching, sometimes the form is retained and only becomes more fancy in form,

while ignoring the problem of foreign students learning Chinese itself. The use of equipment technology sometimes conceals the problem of the rules of Chinese language learning itself, which is not conducive to foreign students better mastering Chinese.

With the Belt and Road Initiative taking root in the world, China has more and more influence in the world. China is the world's second-largest economy and an important trading partner for many countries. When conducting teaching for international students in China, the author also learned from them that Chinese is very popular in their countries, such as in Laos. With the opening of the China Laos railway, many Chinese people travel to Laos for sightseeing and consumption, many Chinese people do business in Laos, and many Chinese products are sold to Laos. It is understood that in Laos, locals who speak Chinese are relatively more likely to find well paying jobs. This situation also exists in other countries, such as other Southeast Asian countries and neighboring countries like Mongolia, and even Algeria in Africa. The demand for learning Chinese globally is also increasing.

### 3. Conclusions

At the same time, with the orderly expansion of Chinese short-term visa free policy for foreigners, more and more foreigners come to China for sightseeing. For example, many foreigners go to Beijing, Shanghai, Guangzhou, Chengdu, Chongqing and other cities to live broadcast while sightseeing. These foreigners include not only Asians, but also Europeans, Americans, etc., and China will be more and more open. The prospects for international Chinese education are quite promising.

With the continuous improvement of Chinese comprehensive national strength, international Chinese education has gradually become a topic of concern for people. The long-term and sustainable development of international Chinese education also needs to be combined with the revolutionary technological wave of artificial intelligence. Some people say that artificial intelligence is the third industrial revolution and will have a profound impact on the development of human society. It can be believed that with the help of artificial intelligence, international Chinese education will develop even better.

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### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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