

# Literature review of research on the application of computerized tools in international Chinese language education

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**Abstract:** Under the background of continuous innovation and development of computer technology, computer-assisted language teaching has gradually become a new development trend of language teaching. Based on the CNKI database, we read, organize and analyze the literature related to "the application of computer means in international Chinese language education", and according to the relevant results, we find that the computer means in China's international Chinese language education has achieved certain application results, involving multimedia technology, virtual reality technology, the establishment of database and other aspects.

**Key words:** international Chinese language education; computerization; literature review

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## 1 Introduction

The global warming of Chinese language fever has promoted the promotion of the Chinese language and the opening up of the country to the outside world. In order to meet the needs of international students in Chinese language learning, Chinese language educators in China have been actively exploring the application of computer tools in international Chinese language education in the hope that computer technology can innovate the traditional teaching mode, enhance the teaching effect, and stimulate students' interest in learning.

## 2 Brief description of research theories

Research on the application of computer tools in international Chinese language education has experienced a long time. Looking back at the history of research, computer means in international Chinese education has realized the development of single-media to multimedia. Teachers can use computers to organize and collect all kinds of teaching resources and teaching materials, as well as analyzing the learning situation of students. In the stage of multimedia development, a large amount of Chinese learning software has been developed, and teachers can use the software to realize the effective integration of sound, image and text in teaching and learning, create a more direct language application environment for students, and help students to make listening and speaking connections in the virtual language environment. In recent years, affected by various factors, the development of computer means has entered a new stage, and the realization of network distance learning has broken the limitations of time and space.

## 3 Review of literature

### 3.1 A preliminary study on the application of computer tools

The research on the application of computer means in international Chinese language education can be traced back to the 1980s. Zhang Pu (1990) mentioned in *On Chinese Information Processing Technology and Teaching of Chinese as a Foreign Language* that in 1981, China set up the "Chinese Language Information Research Association", and that the Chinese language information processing is an emerging high technology, and its combination with Chinese language education has realized new challenges for international Chinese language education and the combination of new science and high technology [1].

### 3.2 Computer tools in the integration of education resources

Compared with traditional classroom teaching, network teaching with the help of computer technology can maximize the sharing of teaching resources. With the continuous progress and development of computer-assisted teaching and network education, the use of computer networks for international Chinese language education has gradually become a new development trend of information-based teaching.

Li Yini analyzed the current situation of Chinese as a foreign language online teaching in *A Web-based Courseware Production System for Teaching*, and constructed a teaching courseware production system based on material library and course template, which is capable of automatically generating courseware from the perspective of Chinese as a foreign language teachers [2].

### 3.3 Application of multimedia technology

For computer-assisted international Chinese language education, the most used computer means is multimedia technology. Yang Huifen and Zhang Chunping analyzed the current situation of multimedia international Chinese education in the article *Multimedia - Important Means of Teaching Chinese as a Foreign Language in the Twenty-first Century*, sorted out the application problems of multimedia in international Chinese education, and put forward three phases of the application of multimedia technology: the first phase is to coordinate the arrangement, the second stage is to further improve the multimedia teaching software and multimedia production room, the third stage is to improve and enhance the multimedia preparation at the same time [3].

Research on the application of multimedia technology in international Chinese language education reached its peak around 2010. Zheng Meiping (2008) studied the construction of multimedia material library in international Chinese education. Zhang Beibei (2009) systematically analyzed the cognitive psychological basis of using multimedia technology means in conducting international Chinese education through the actual teaching cases of Hanyu.com. And Xia Wei (2011) explored the change of students' roles in the multimedia mode of Chinese as a foreign language from the perspective of students [4].

And in recent years, the research on multimedia technology has been more detailed. Hu Bibo (2020) took multimedia courseware as the main research object. By analyzing the drawbacks of the application of multimedia courseware in Chinese language teaching, based on cognitivism theory and the theory of second language acquisition, combined with the characteristics of the comprehensive elementary Chinese language class, he took the design of the courseware, the selection of materials, the organization of the content and presentation of the results as the main research content, and summed up the principles and strategies of the design of the multimedia courseware, and applied them to the teaching practice.

### 3.4 International Chinese language education supported by virtual reality technology

Zheng Yanqun (1999) mentioned virtual reality technology in his *Prediction of Language Teaching Methods in the 21st Century*, and believes that this technology will certainly become a very effective language teaching tool [5].

In the twentieth century, the superiority of virtual reality technology has been gradually discovered by researchers in

international Chinese language education and a series of teaching mode design has been carried out. Qiu Xinyi mentioned in the article *Chinese as a Foreign Language Teaching Mode Supported by Virtual Reality Technology* that virtual reality technology for international Chinese language education is not to improve the entertainment and attractiveness of teaching, or to expand the high level of classroom teaching, but to create an environment for students to acquire the language in daily life.

Zhao Jingjing (2016) directly uses "Second Life", a representative platform for virtual reality teaching and learning applications, as a teaching tool, firstly explaining and sorting out the specific components of international Chinese language education in virtual reality, and then utilizing the "Second Life" as a teaching tool. With the help of "China Island" in "Second Life", we conducted a case study on the international Chinese education island.

## **4 Review of literature**

### 4.1 Research evaluation

On the one hand, the studies cover a wide range of topics and are conducted from multiple perspectives. During the period of 2003-2006, as the term "Internet" was just emerging, the research on the application of computer tools in international Chinese language education was more generalized, mostly focusing on the advantages of the application of computer tools. From 2007 to 2012, researchers began to focus on the specific curriculum research, such as researching the use of computer tools in Chinese language practice, teaching Chinese characters or teaching modal complements, etc. During this period, we have entered the stage of multimedia development, so more researchers are committed to researching the application of multimedia tools. From 2013 to the present, with the progress and development of modern computer technology, more computer means have been applied in international Chinese language education, such as remote network technology, virtual reality technology, and the construction of teaching resource databases and so on. In summary, it can be seen that with the depth of the research, the application of computer tools in international Chinese language education has been broadened, and more country-specific teaching cases have appeared, showing a diversified development trend as a whole.

However, on the other hand, the research on the application of computer means and computer technology is relatively single. By analyzing the CNKI database literature on "the application of computer means in international Chinese language education", it can be seen that the research mainly focuses on remote network technology, multimedia technology and modern education technology, while the research content of virtual reality technology and big data technology, which have become more popular in recent years, is relatively small. Therefore, it is necessary to find new research directions and research themes, or break the limitations on the basis of the original research to explore new research objects.

### 4.2 Research recommendations

The first thing that teachers of Chinese as a foreign language should do is to set up a correct concept of information ethics, to be able to correctly use computer means to strengthen the information processing and information construction of international Chinese education. In addition, with the help of network platforms such as the Chinese Language Alliance and network forms such as virtual teaching and research laboratories, teaching and learning resources should be upgraded and innovated to help international Chinese language education. Finally, teachers should take the initiative to learn the computer tools and digital technology related to international Chinese language education, focus on the development of digital information field, deepen the understanding and application of computer tools in the teaching process.

## **5 Conclusion**

In conclusion, computer tools have great advantages in international Chinese language education, as its simplicity, efficiency, speed and other characteristics can help Chinese language teachers to carry out higher quality international

Chinese language education.

### **Conflicts of interest**

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

### **References**

- [1] Zhang P. 1991. On Chinese information processing technology and teaching Chinese as a foreign language. *Language Teaching and Research*, 1: 111-129.
- [2] Yang HF, Zhang CP. 1999. Multimedia--an important means for teaching Chinese as a foreign language in the 21st century. *Journal of Tianjin Normal University (Social Science Edition)*, 1: 78-81.
- [3] Zhang BB. 2009. Cognitive psychology basis of multimedia educational technology for teaching Chinese as a foreign language. *Today's Southland (Theory and Innovation Edition)*, 3: 28+30.
- [4] Qiu XY. 2006. A model of teaching Chinese as a foreign language supported by virtual reality technology. *Foreign Language E-learning*, 1: 32-36.
- [5] Wang HN, Liu DD, Ren QQ, et al. 2022. Connotation and enhancement path of digital competence of international Chinese language teachers. *Ethnic Education Research*, 33(06): 148-155.