

Research on the Strategy of Using Artificial Intelligence to Assist International Chinese Language Education

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In the context of the post-pandemic era and the widespread application of the artificial intelligence (AI) technology, international Chinese language education presents new characteristics. In particular, the emergence of chat generative pre-trained transformer (ChatGPT) has aroused widespread attention and heated discussions in the field of education, including the international Chinese language education. Through the review of the application of computer technology in the field of Chinese teaching in China and the discussion of the challenges and opportunities brought by ChatGPT in the current context, the advantages and disadvantages of AI in international Chinese language education are analyzed, so that Chinese teachers are able to make better use of AI and adopt flexible and diverse teaching methods to meet those challenges, and strategies to improve teaching effects are provided.

Keywords: artificial intelligence (AI), ChatGPT, international Chinese language education, strategies

The New Context of COVID-19 and AI has Created a new Trend of International Chinese Language Education

In the post-pandemic era, Chinese teaching presents new characteristics, including the popularization of online teaching, emphasis on the practicality of language, personalized teaching and multicultural teaching, etc., which will promote the development of Chinese language education in a more flexible, practical, and diversified direction. In particular, online Chinese teaching has been widely promoted. Many schools have adopted online teaching platforms, such as Tencent Meeting, WeChat, Zoom, etc., which is not only convenient, but also enables students to choose class time and place more freely. It will have a lasting impact on teaching methods.

The development of the artificial intelligence (AI) technology, especially the emergence of chat generative pre-trained transformer (ChatGPT), has aroused extensive discussions in various fields. The field of international Chinese language education is also thinking about how to use AI to promote Chinese teaching.

Review of the Application of Computer Technology in International Chinese Language Education

AI can be considered as the result of the development of computer technology (information technology) to a certain stage. When Zheng Yanqun (2019) reviewed the influence of educational technologies in Chinese teaching since the founding of the People's Republic of China 70 years ago, she also mentioned that the achievements of educational technologies in Chinese teaching are obvious to all. The development of Chinese language education technologies has always followed the step of emerging technologies in the field of education,

and its key research results are comparable to those of foreign language education technologies. Since the beginning of the 21st century, the influence and role of information technology on Chinese teaching is expanding in all directions and from multiple angles, and “information technology has changed or is changing from a supporting means to a deep-rooted basic form and leading force”, which should be recognized.

At the beginning of the application of information technology in Chinese teaching, it was mainly reflected in multimedia teaching and radio teaching, the former involving the application of tapes, slides, and other facilities. In 1951, “recording” was included in the curriculum on Chinese language for exchange students from Eastern Europe in Tsinghua University (Lu, 2014). Multimedia teaching can present students with more dynamic and vivid teaching content through diverse forms, such as text, image, audio, and video, so as to improve students’ learning interest and learning effect. Teachers can use multimedia teaching software to produce various teaching resources, such as audio, image, and animation to help students better understand Chinese language and culture. In 1962, China Radio International (CRI) launched the “Learn Chinese” and “Lectures on the Chinese Language” programs in its English and Japanese channels respectively (Wang & Feng, 2021). Radio teaching breaks the constraints of time and space, provides rich educational resources, saves education costs, and improves learning effects.

With the continuous development of information technology, another important manifestation of its supporting role in Chinese teaching is to use Chinese character input software to input Chinese characters. Students can use the software and dictionary on their computer or mobile phone to quickly input Chinese characters and look up new words, which will improve the efficiency of Chinese character input and output. At the same time, the software can show students the strokes and stroke order of Chinese characters, and can provide game-like Chinese character writing practice. These technologies improve students’ learning efficiency and interest, and promote the modernization and internationalization of Chinese character teaching.

With the progress of the times, distance learning has also become more flexible and diverse. Students can also visit Chinese learning websites for comprehensive training in listening, speaking, reading, and writing. Many schools and institutions provide online learning platforms and courses, from which students can get access to learning resources on Chinese language, such as videos, audios, teaching materials, and exercises, and freely arrange their time for study. Peking University offers Chinese courses on Coursera, which are very popular among Chinese learners all over the world.

The Impact of AI on International Chinese Language Education

The development of computer technology to the stage of AI has increasing influence on international Chinese language education, and has constantly changed the way of traditional teaching. The application of AI is changing and optimizing the traditional language teaching methods, which can improve the efficiency and quality of language teaching, and at the same time provide students with a more personalized and self-initiated learning experience. In addition, AI has its limitations and cannot completely replace traditional teaching. We need to re-examine the impact and challenges of AI on international Chinese language education.

The Advantages of AI-assisted International Chinese Language Education

AI can bring new ways of learning Chinese, such as personalized teaching, self-initiated learning, and interactive teaching. In traditional teaching, teachers have to face the entire class, difficult to meet the individual needs of each student. The AI technology can automatically generate personalized learning plans and teaching

content based on students' learning data and feedback to meet the diversified needs of students. In traditional teaching, students' learning process mainly depends on teacher's instruction and homework assignments. The AI technology can provide students with more opportunities for self-initiated learning, such as through intelligent learning tools and resources, allowing students to independently choose learning content and learning methods, so as to stimulate their enthusiasm in learning. At the same time, the technology can provide more interactive learning experience through intelligent teaching tools and applications, such as through gamified topics and games, to stimulate students' interest and passion for learning, and enhance their sense of participation and learning effects. In addition, it can improve the way of cultural learning and experience in language learning. The combination of AI with virtual reality (VR) and artificial reality (AR) can provide a more vivid way of cultural expression.

Oral English teaching has always been an aporia in Chinese teaching, and traditional oral English teaching methods can hardly meet the needs of students. In teaching a large group of students, the participation of students and the time for oral practice are both limited. It is difficult for teachers to provide individualized instruction to each student, and at the same time, they cannot fully understand each student's oral level and the challenges they face, resulting in poor learning effects. In one-to-one teaching, the qualification and proficiency of teachers directly affect the learning of students. Teachers have different qualifications and abilities, and one-to-one teaching requires teachers to invest more time and energy, and the requirements for them are also higher. Introverted students may suffer huge pressure during oral English teaching, which will adversely affect their confidence and oral expression ability, and hinder their oral English learning process. Instead, the AI technology can provide more intelligent and real oral interactive experience through speech recognition, speech synthesis, and other technologies to help students practice their oral English.

Areas for Improvement in AI-assisted International Chinese Language Education

In recent years, with the continuous development of the AI technology, it is more widely applied in language learning. However, we shall also see that traditional teaching methods still play an important role in language learning. This is because the traditional language learning has accumulated rich experience after years of development, which makes it quite effective. These traditional methods have been verified in practice and are widely used in language learning. Although the AI technology is also used in language learning, compared with traditional methods, it still needs to be improved in certain ways. For example, in language learning, the speech recognition and natural language processing technologies still cannot completely and accurately understand human language, and the effectiveness of the AI technology in language learning will take a certain amount of time to be verified. Repeated experimentation and research are needed on these technologies to see if they can improve language learning.

The Emergence of ChatGPT has Triggered in-depth Thinking on the AI technology

ChatGPT is a natural language processing tool based on the AI technology, which can be used to answer users' inquiries and generate articles. The emergence of ChatGPT in 2022 has attracted widespread attention and interest. Since then, many people have tested and explored it, trying to understand its functions and capabilities. The field of education, including Chinese language education, is also discussing its possible impact and application methods.

The main challenge is, with the increasing number of translation software, especially the improvement of the quality of translation software, the necessity of language learning has been questioned. In the meantime, the

performance of ChatGPT is amazing. Everyone is surprised by the rapid development of the AI technology, and expects that more advanced AI products will appear in the near future, which may save them the efforts of language learning. At the same time, traditional language teaching methods are also facing challenges. Students expect more personalized learning methods, such as graded reading, targeted oral practice, and more flexible evaluation techniques.

Although ChatGPT can help with Chinese language learning, there are still drawbacks, e.g., the answers may be inaccurate or incomplete. Therefore, in the process of learning Chinese, ChatGPT should be used as a supporting tool, and learners also need to use other learning resources and teaching methods for comprehensive and systematic learning. As Chinese teachers, we must also constantly think about the impact of AI on international Chinese language education, and actively adopt new teaching methods.

Strategies for International Chinese Language Educators

AI Provides Only Assistance, and the Role of Teachers Cannot Be Replaced

Chinese teachers shall be confident that we can use AI to support teaching, but we always play the leading role in Chinese learning. Although the AI technology can provide intelligent teaching tools and personalized learning plans, it lacks human features, and cannot understand or care about students' emotions as human teachers do. Chinese language teaching is not only about imparting knowledge, but also helps with cultural inheritance and interpersonal communication. Chinese teachers do not only teach language knowledge and skills, but also impart Chinese culture and values, and provide instruction on communication and interaction to students. All of these require teachers to have interpersonal skills and cross-cultural communication skills, which cannot be replaced by the AI technology. Teachers can also adjust teaching methods and strategies according to students' learning habits, abilities, and needs. Therefore, although the AI technology can assist Chinese teachers in teaching, teachers themselves still play an irreplaceable and indispensable role in the entire teaching process.

Make Full Use of AI to Serve Teaching

AI can help teachers prepare lessons and free them from heavy work, such as correcting homework and pronunciation. It can also provide language learning support, such as AI-assisted translation, text-to-speech synthesis, speech recognition, and natural language processing. These technologies can help teachers better interpret and present knowledge, and also help students better understand and learn language. AI can automate the assessment of student assignments and exams, such as grammatical and spelling error detection, automated grading, and more, which can save a lot of time for teachers and allow them to better focus on the individual learning needs of students. There are currently some AI technologies that can automatically generate slide content and design, such as natural language processing, image recognition, automatic summarization, and automated design. While AI can help with the design, slides still require review and revision by teachers. In addition, teachers shall also pay attention to the quality and effect of the teaching content, and ensure that the slides meet the teaching objectives and students' learning needs. AI can also automatically select appropriate teaching resources and knowledge according to students' language proficiency and learning progress, helping teachers better design slides and courses, which is a good supplement to the classroom.

Taking ChatGPT, which has attracted widespread attention, as an example, it has also brought new opportunities to international Chinese language teaching. It can engage in dialogues in Chinese. For Chinese learners, they can improve their oral expression by communicating in Chinese with ChatGPT. It can also provide

large amount of Chinese learning resources, such as Chinese grammar, Chinese stroke order, Chinese pronunciation, etc., which can help students learn Chinese better.

International Chinese Language Education in the Era of AI Puts Forward new Requirements for Teachers

Chinese teachers should learn and master certain AI technologies, such as natural language processing and machine translation, in order to better understand and apply them. Online teaching also requires the use of a variety of technological tools, such as video conference software, online teaching platforms, and screen sharing tools. Therefore, teachers need to have certain technical skills and experience in order to conduct online teaching smoothly. They can use the AI technology to integrate teaching resources, develop more flexible and diverse teaching methods, and improve teaching efficiency and learning effects. At the same time, it provides more personalized teaching, integrates teaching resources, and explores new teaching models to meet the different needs of students.

Conclusion

Although the AI technology can assist teaching, it still cannot replace the thinking ability of human. We need to give full play to the advantages of traditional methods and combine the advantages of AI to continuously explore and develop more effective language learning methods. Chinese teachers shall focus on developing students' thinking ability, and improving their language expression and communication skills, so that they can better cope with the challenges brought by AI in the future.

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