

Foreign Language Classrooms in the AI Era: New Opportunities, New Challenges

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ABSTRACT

With the development of education informatization, new technologies provide new possibilities for foreign language teaching. This paper explores the innovative mode of foreign language teaching and its optimization direction under the technical support. It is found that educational technology has unique advantages in dealing with basic training and providing timely feedback, while teachers still play an irreplaceable role in the core aspects of thinking ability cultivation and imparting cultural connotations. In key areas such as contextualized teaching and learning diagnosis, the organic combination of the two can produce a good synergy effect. What needs to be paid attention to is the possible problems of information accuracy and system stability in the process of technology application. Organic combination of technological development and education to create a more efficient foreign language classroom.

KEYWORDS

Artificial intelligence; Foreign language teaching; Human-computer synergy; Personalized learning; Teacher development

1 Introduction

With the intertwined advancement of the waves of globalization and digitization, the mastery of a foreign language has increasingly become the core competitiveness of one's career development. However, traditional foreign language teaching has been facing a lot of difficulties: the uneven distribution of educational resources between developed and underdeveloped regions, the difficulty of realizing teaching students in accordance with their aptitude in the classroom, and the limited classroom time, the space for interaction and communication are also obviously constrained.

Since 2022, the rapid development of large-scale language models such as ChatGPT and DeepSeek has brought new developments to foreign language teaching. AI can not only give feedback like a teacher, but more importantly, instant feedback, answering students' questions at any time; it can also accurately correct assignments and correct errors, with almost no miscategorization or mistakes and omissions; and it can moreover analyze the characteristics of learners through big data to create an immersive and highly What's more, it can analyze learners' characteristics through big data to create an immersive and highly interactive language learning environment.

However, while AI brings convenience, it also raises new concerns. For example, in argumentative essay writing, many students tend to use the same words, frequently appearing "provide a valuable insight", "leave an indelible mark" or "play a significant role". "play a significant role" and so on. A deeper look reveals that most of these sentences come from the suggestions of large-scale language models, leading to a uniformity of style and a lack of individuality and creativity in students' work.

This article will explore how AI changes the paradigm of foreign language teaching, analyze its possible future potential in foreign language learning, and discuss how to balance the relationship between technological innovation and the nature of education in the application of the technology.

2 The potential of AI in foreign language teaching and learning

With the in-depth development of educational informatization, artificial intelligence technology has shown great potential for change in the field of foreign language teaching. A large number of examples and studies show that AI is profoundly changing foreign language learning, which is reflected in personalization of learning, instant feedback and intelligent integration of resources. This not only revolutionized the traditional teaching mode, but also improved the learning efficiency and expanded the teaching coverage.

In personalized learning, the performance of adaptive learning technology is accurate and efficient. In recent years, the rapid development of AI has led to the design and application of personalized learning systems, especially in the areas of grammar and vocabulary. Such AI-mediated systems are able to continuously track learners' progress and dynamically adjust the difficulty and presentation of the content to match each learner with the most appropriate learning pace. However, studies also found out that for AI technologies to be effective in the long term, they must be integrated with educators' teaching practices. Relying on algorithms alone is not enough to address complex educational needs, and the only way to achieve sustainable personalized learning is to deeply integrate technology with teaching (cf. Bayly-

Castaneda, Ramirez-Montoya & Morita-Alexander, 2024).

From the perspective of technical realization, the application level of AI in foreign language teaching is very clear at present. Chassignol et al.'s research in 2018 mentioned that the most mature areas at present are the relatively structured language element learning fields such as vocabulary memory and pronunciation correction. The evaluation criteria in these fields are relatively clear, the algorithm can establish effective models based on structured learning data. Pearson's prospective research (Luckin et al., 2016) also found the special value of AI in language learning: by continuously collecting and analyzing data, the system can find knowledge loopholes and common error patterns that learners are not aware of, and then give targeted reinforcement exercises. This meticulous and personal learning diagnosis is difficult to do in traditional classrooms.

From the perspective of educational equity, AI has also made some contributions. In remote areas where educational resources are relatively scarce, students can now obtain learning resources equivalent to those of urban students with the help of intelligent language learning platform. For example, relying on AI-driven speech recognition and error correction functions, learners can get personalized pronunciation feedback, and even without the direct guidance of mother tongue teachers, their oral English can be improved in a targeted manner. More crucially, the popularization of AI technology is gradually removing the barriers brought by geographical and economic factors, so that more learners can enjoy the opportunities and resources of language learning in a fairer environment.

However, existing research has also clearly pointed out the shortcomings of AI technology at present. The 2017 report by the US Department of Education stated that relying too heavily on algorithmic recommendations may make everyone's learning paths more similar and weaken learners' ability to explore on their own. Moreover, the performance of AI systems in cultivating high-level skills such as language expression is unsatisfactory. Chassignol et al.'s analysis in 2018 suggests that this is mainly due to insufficient understanding of the context and cultural connotations in language communication by existing technologies. The study by Luckin et al. in 2016 also reminds us that language learning is essentially a social and cultural practice, and it is difficult to fully reproduce the complex interactions in real language communication solely through technological optimization.

From the perspective of teaching practice, AI technology cannot replace the role of teachers and is best used as a supplement to traditional teaching. The above studies have proven that combining the precise diagnosis and real-time feedback of AI systems with teachers' question-answering and cultural dissemination yields the best teaching results. This hybrid model not only leverages the efficiency advantages of technology in handling structured tasks, but also retains the unique value of teachers in cultivating higher-order thinking.

Overall, AI technology has indeed brought efficiency improvement and experience optimization to foreign language teaching, but the effectiveness is influenced by various factors such as the stage of technological development, teaching design concepts, and learner characteristics. We need to see the potential of technology now, but we cannot expect too much; The most practical development path may be to actively use new technologies while also valuing the wisdom of traditional teaching. Future research should focus more on how to combine human-machine advantages in different teaching scenarios to truly improve the quality and efficiency of foreign language education. Technology developers should collaborate more deeply with linguistic experts and educators to ensure that the design of AI tools conforms to the basic laws of language learning and practical teaching needs.

3 Practical application and limitations analysis of AI in foreign language teaching

At the most basic level of practice assistance, intelligent question banks and automatic grading systems have been widely used. This type of system relies on natural language processing technology to immediately detect grammar errors and provide modification suggestions, but its functionality is still limited to recognizing surface language features. Writing aids like Grammarly have precise error correction, but their judgment of the semantic coherence and stylistic appropriateness of the article remains inadequate. For example, practice systems like Duolingo typically involve one-on-one vocabulary translation, where users can complete tasks by selecting and dragging the correct answers. However, this training mode is mainly limited to vocabulary and sentence level exercises, lacking the ability to communicate effectively in real contexts. Although it performs well in basic language learning, it still cannot fully simulate real language communication when facing complex language usage scenarios such as daily communication, emotional expression, or cross-cultural understanding.

In the middle and high-level interaction applications, voice recognition technology and conversational AI have made considerable progress. For example, ChatGPT's intelligent voice assistant can do basic conversational practice and is more practical for pronunciation correction. However, the ability of these systems to adapt to non-standard accents varies greatly, and the content of the conversation is mostly limited to everyday topics. More critically, these interactive systems do not have the paralinguistic cues of real communication, such as body movements and facial expressions (e.g., Italian requires a lot of gestures to assist expression), resulting in a large gap between the practice environment and the real

scene.

Examined from the perspective of teaching practice, the current application of AI in foreign language teaching has three main bottlenecks.

The first is insufficient contextual understanding. Although the current natural language processing models have made progress in grammatical analysis and semantic understanding, they still lack a good grasp of the cultural background and communicative intent, which are the deeper contextual elements. This makes it difficult for the system to accurately judge whether the language expression is decent and appropriate. More seriously, the mainstream AI dialog systems (such as ChatGPT, DeepSeek) have an obvious problem: when a single conversation reaches the upper limit of its length, the system will be forced to open a new conversation, and all the previously accumulated learning contexts will be invalidated. The student then needs to re-adapt the language model to him/herself. However, the dialogue opened again may be of varying quality and poor adaptability, seriously affecting the consistency and effectiveness of personalized learning.

Finally, the quality of feedback is limited: AI can give immediate feedback, but it is mostly a judgment of right or wrong, unlike a human teacher who can give explanations and inspirational guidance. Especially in the creative use of language, the evaluation criteria of the system are often very mechanical and rigid.

What is more important to note is that the current AI system is very flawed in cultivating students' ability to think independently. Many students rely too much on the ready-made answers and modification suggestions given by AI, and slowly lose the ability to explore and use language creatively on their own. For example, when writing essays, students always use the expressions generated by the AI directly instead of forming their own language styles; when practicing speaking, they excessively imitate the standard pronunciation of the AI, which suppresses their own linguistic characteristics; and when they encounter problems, they habitually ask the AI for help instead of trying to think on their own. In the long run, learners' language expressions will become uniform and their creative thinking will deteriorate.

There is also a cautionary note that the large language models represented by ChatGPT and DeepSeek have the problem of "over-alignment". When the system discovers that learners have preferences or misunderstandings about certain language knowledge, it tends to unconsciously reinforce such tendencies, and even make up incorrect or false information to fulfill learners' expectations. Students' blind trust in large-scale language models can lead them to learn incorrect knowledge. For example, if a student mistakenly believes that there is an exception to a grammatical rule, the system may make up non-existent "exception rules" to go along with this misunderstanding; when explaining cultural knowledge, it may exaggerate or distort certain cultural phenomena to cater to the learner's preconceived notions; when encountering questionable linguistic usages, it may give explanations that appear to be reasonable, but are actually false.

4 Summary and conclusion

This study reveals the important value and development direction of the human-computer collaborative teaching mode by systematically analyzing the potential and practical application of AI in foreign language teaching. Based on the empirical analysis and theoretical discussion, we can draw the following core conclusions:

First, the complementary advantages of AI technology and foreign language teachers have been fully verified. Research and practice have shown that when AI is responsible for repetitive training, instant feedback, and learning progress tracking, which are the areas it is good at, and teachers focus on cultivating higher-order thinking, interpreting cultural connotations, and providing personalized guidance, which are the core aspects of education, it can produce better learning results. This division of labor model not only brings into play AI's efficiency advantage in data processing and instant response, but also retains the irreplaceability of teachers in educating people.

Second, AI shows special value in the areas of human-computer collaboration, such as scenario simulation, error analysis, and learning strategy guidance. At these intersections, AI can provide basic support and technological enhancements at the micro level to provide more personalized tutoring for students, while teachers can be responsible for quality control and cultural dissemination at the advanced level. For example, in scenario simulation, AI generates language materials and teachers guide students to interpret the culture; in error analysis, AI identifies error patterns and teachers design remediation plans; and in learning strategy guidance, AI tracks learning behaviors and teachers give personalized advice.

However, the current man-machine collaboration still faces several key challenges. The reliability of AI system (such as inaccurate information), dialogue continuity (such as dialogue interruption), excessive adaptation (such as inhibiting creativity) and other issues need to be continuously improved. At the same time, teachers' ability to integrate technology and their awareness of critical use of technology also need to be improved. In a word, AI and foreign language teachers are not substitutes, but evolve together. Only when technology developers, educational researchers and front-line teachers form an innovative community can the full potential of foreign language education in the intelligent age be truly released. The future foreign language classroom should be an innovative space for the integration of human-machine

advantages, where technology can bring more possibilities for education and improve the efficiency and personalization of learning. But we need to ensure that the application of technology can truly serve the mission of education, rather than replace or dominate it. Through the guidance of education, we can make technology better serve human growth and social progress.

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