



A Study on the Construction of College English Teaching Mode in the Age of Artificial Intelligence

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Abstract. With the rapid advancements in information technology, the appropriate application of artificial intelligence (AI) in the field of education has become an inevitable trend in the new era. The advantage of AI technology in overcoming spatial limitations can assist the reform of college English teaching and learning. Expanding teaching resources and using AI technology to innovate teaching methods and evaluation system are crucial issues for college English education. Constructing an English teaching system with the help of artificial intelligence tools can help English teachers and students more effectively acquire language knowledge, develop skills and promote higher-order abilities.

Keywords: College English; teaching mode; artificial intelligence; large language model.

1 Introduction

At the 2023 World Digital Education Conference, Wu Yan, Deputy Minister of Education of China, emphasized: "Digital technology, represented by artificial intelligence, is changing traditional educational concepts and paradigms and reshaping the form of higher education, which has become a global consensus¹". A large language model (LLM) is a type of natural language processing model based on deep learning neural networks. This model, through the learning and training of a general language model with large-scale parameters, is able to understand and simulate human language abilities and can complete different types of natural language processing tasks according to human instructions (Floridi & Chiriatti, 2020)². ChatGPT, as one of these models, has caused a significant impact across various fields since its launch in November 2022. Developed by the American company OpenAI, this AI chatbot is essentially a large language model integrating natural language generation, language understanding and classification and data augmentation as a whole. It becomes the most powerful force for promoting foreign language education reform. With the help of big data and continuously innovative algorithms, ChatGPT can significantly enhance teachers' teaching efficiency, continuously integrate vast educational resources, realize broader educational resources sharing and provide students with personalized learning plans. The ability of LLMs to perform complex language processing tasks continues to improve,

the quality of knowledge production keeps enhancing, and the capabilities for intelligent analysis and reasoning are accelerating. The continuously updated large language models are revolutionizing education, especially language teaching.

2 The Significance of Applying AI Technology in English Teaching

Chen Huimin et al. (2024)³ pointed out that large language models are based on massive data through self-supervised learning, possessing strong capabilities to adapt to and complete tasks in multiple scenarios. These models are based on deep learning, utilizing neural networks and vast amounts of textual data to train machines to learn the vocabulary, syntax, semantics, discourse, and other aspects of human language. Currently, AI technologies such as text recognition, image recognition, speech recognition, machine translation, speech synthesis, and natural language understanding have been practically applied in English teaching. The application of AI technology in English teaching effectively changes students' language input and output methods, strengthens interactive communication between teachers and students and among students, encourages students to actively acquire English knowledge, and enhances the personalization of students' English abilities and proficiency. The foreign scholars focus on the study that Advanced AI technologies have been identified as potential ways for learners and teachers to apply generative AI (GAI) (Hong 2023⁴; Kohnke et al. 2023⁵) and the ethical norms for applying GAI (Nguyen et al. 2023)⁶. In China's foreign language education field, discussions on generative AI are also increasing, involving the impact of ChatGPT on foreign language teaching practices, teaching models and teaching methods (Hu Zhuanglin 2023⁷; Qin Ying 2023⁸; Yang Gang, Gu Shimin 2023⁹), its role in promoting autonomous learning (Zhang Zhenyu, Hong Huaqing 2023¹¹), and its impact on the role of teachers (Yu Yinlei, Rao Hui 2023)¹⁰. These studies reveal the potential value of generative AI in the education field, the practical challenges it faces, and the possible future impacts, providing important insights for effectively applying this technology in education. However, academia still needs to systematically analyze the principles, paths, and main directions of applying large language models in foreign language teaching based on the characteristics and functions of these models.

3 The Application of AI Technology in College English Teaching

In the field of English education, AI technology has made achievements in speaking, writing and translation and it is continuously deepening the reform of English education. This section introduces the application of large language models in the teaching of listening, speaking, reading, writing, and translation in English teaching.

3.1 The Application of LLMs in College English Listening Teaching

Listening has always been a crucial part of English teaching, which is the foundation of college English learning. Currently, the listening content in Chinese English textbooks is often monotonous and dull, with high difficulty to arouse Chinese students' learning interests. Due to teaching methods, college students find it difficult to absorb and digest listening content, resulting in low interest in listening classes. AI can provide learners with listening materials of different fields and themes, meeting the personalized needs of students at different levels. Through various language materials, college students can both retrieve learning content based on course settings and choose listening materials according to personal preferences. AI devices can automatically retrieve suitable materials for learners based on their search input and personal data, supporting self-directed learning. The multidimensional content presented by large language models can enhance learners' enthusiasm for listening practice and provide precise service for all learning groups. Meanwhile, teachers can utilize the linguistic knowledge of large language models to write prompts that help identify typical expressions in listening materials' style and theme, filtering key linguistic points in specific types of texts as teaching supplements. Teachers can also use large language models to establish specialized English phonetic corpora and promote them to students according to specific situations. This is a powerful tool for improving the current state of English listening teaching and has far-reaching significance for the reform of English education.

3.2 The Application of LLMs in English Speaking Teaching

Speaking practice is essential for acquiring any language and it's crucial for communication. The ultimate goal of learning English is to use it effectively in social interactions. English oral expression reflects students' ability to flexibly apply what they have learned. Therefore, teaching should increase the difficulty and practice of oral learning. AI has remarkable advantage in significantly enhancing students' oral proficiency. Before the introduction of large language models, some software tools could analyze and evaluate students' spoken language, but few focused on the meaning or content of the output. With technological advancements, models with voice interaction capabilities can accurately recognize users' spoken input and generate natural speech flows in real-time, making large language models effective in assisting oral practice. For students, using models as conversational partners brings emotional and cognitive benefits. Although models are not real people, their voice feedback is similar to human interaction, providing a sense of achievement and interest similar to real communication. Using such AI tools for oral communication helps alleviate student anxiety and improve performance. Communicating with naturally intelligent companions can boost students' motivation for oral practice. Large language models can create various communication contexts and use companion dialogue to help learners master common expressions and recommend expressions to improve language output quality. AI devices, portable for learners, offer continuous oral learning scenarios and can embed everyday contexts into dialogue systems, allowing learners to recreate certain life details virtually. Integrating entertainment and learning enhances learners' initiative. Using large language models

in English teaching improves oral learning outcomes, enhancing learners' oral dialogue ability and fluency, raising overall English proficiency. In the classroom, we can ask the large language model to act as a conversational partner. We can provide prompts such as: the model plays the role of a native English-speaking student, while the student's role is a non-native English speaker. The activity is a dialogue between them and the dialogue revolves around a specific theme. The large language model should guide the student in-depth dialogue and provide appropriate insights.

3.3 The Application of LLMs in English Reading Teaching

The application of large language models in reading teaching is not as good as that in other fields of English teaching. However, we believe that large language models have great potential in assisting reading teaching. On one hand, the abundant English reading materials can be overwhelming, making it challenging to find suitable materials for students. Large language models can help retrieve English texts of specific difficulty levels and themes and rewrite them to meet requirements according to teachers' prompts. On the other hand, large language models can act as reading companions, interacting with students and outputting content that matches their interests, making students more engaging during the reading process. With the help of large language models, the teaching can effectively enhance students' abilities of critical thinking and creativity.

3.4 The Application of LLMs in English Writing Teaching

The large language models in writing teaching often play the roles of assessment experts, helping teachers correct students' compositions. This application can improve teachers' work efficiency or assist students in practicing writing independently, following traditional practice patterns. Currently, AI-based English correction platforms have been introduced in many universities. Writing practice in English learning mainly involves creating English essays. The addition of AI correction platforms enables students to receive objective feedback on their English essays immediately. Intelligent correction platforms can make basic judgments on the structure, grammar, sentence patterns, etc., of students' essays, and provide corresponding correction suggestions from punctuation and word spelling to grammar, sentence patterns, and article structure. This allows learners to correct errors promptly and understand the correct expressions. Integrating AI devices into English writing can leverage the personalized error correction and sentence evaluation functions of large language models, helping learners construct personal creative spaces, enhancing self-awareness and confidence in English learning, offering advantages unattainable by traditional teaching methods. It also lessens teachers' teaching load. Teachers can conduct secondary corrections based on AI corrections and evaluate teaching outcomes through AI devices, improving teaching content based on secondary correction results. Additionally, large language models can act as language advisors, assisting in English writing teaching by revising and polishing students' compositions and guiding them to distinguish between formal and informal language in English. Register awareness is a significant challenge for advanced English

learners. Providing students with similar-themed texts of different registers can visually demonstrate register differences, but such materials are hard to find. In this case, using large language models to generate such texts is an ideal solution.

3.5 The Application of LLMs in English Translation Teaching

English translation is an important goal in English teaching. Large language models serve as language assessment experts in the evaluation of written language. Traditional writing evaluation tools can examine students' writing for grammatical accuracy, but they cannot solve the problem of faithfulness, expressiveness and elegance in translation. LLMs can not only check the grammatical correctness and appropriateness of the translations but also compare them with the original texts to ensure that translations vividly reflect the original meaning. They can even evaluate the pragmatic equivalence between the two, providing a more effective tool for translation quality assessment. As English proficiency assessment experts, LLMs' feedback on whether English translations align with English usage norms is valuable. Additionally, these models can serve as language advisors, offering evaluative feedback and revision suggestions. Furthermore, in specialized English translation, LLMs demonstrate unique advantages. Students can rely on these models to correctly use technical terms. LLMs can detect learners' translation processes in real-time and provide online assessments of translated content, helping them promptly correct errors and solve encountered problems, thereby achieving personalized teaching goals.

4 Conclusions

Applying AI technology in college English teaching, deeply exploring its potential, and guiding students to change their learning methods to enhance their practical English learning experience. AI can also promote teaching reform and improve teaching quality in higher education. Effectively integrating AI technology with college English teaching models and making hybrid teaching model a new norm in English language teaching can improve the effectiveness of college English teaching and cultivate high-quality talents suitable for socio-economic development.

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