

Research on the Application Scenarios of AIGC in College English Teaching

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ABSTRACT

With the rapid development of artificial intelligence technology, AIGC(generative artificial intelligence content) has attracted extensive attention in the field of education. This paper discusses the multiple application scenarios of AIGC in College English teaching, including scenario creation, teaching resource generation, personalized learning support, intelligent evaluation feedback and virtual interactive learning. Through the analysis of these application scenarios, this paper expounds how AIGC innovates the traditional college English teaching mode, improves the teaching quality and efficiency, and reflects on the challenges it faces, aiming to provide beneficial reference for College English teachers to reasonably use AIGC in teaching practice, and promote the innovation and development of College English teaching.

KEYWORDS

AIGC; College English teaching; Application scenarios

1 Introduction

With the rapid development of AI technology, AIGC (artificial intelligence generated content) has gradually become the focus of attention in the field of education. AIGC technology has powerful content generation capabilities, such as text, image, audio, etc., which has brought new opportunities and changes to college English teaching. College English teaching aims to cultivate students' comprehensive English application ability. To a certain extent, the traditional teaching mode is difficult to meet students' personalized and diversified learning needs. The intervention of AIGC technology is expected to break this dilemma, open up a new path for College English teaching, and improve the teaching effect and quality. Exploring the application of AIGC in College English teaching is of great significance to promote college English teaching reform and meet the needs of the development of the times.

2 Overview of AIGC technology

The development of AIGC has experienced several stages. In early times, artificial intelligence based on rules attempted to generate simple texts, but the texts were not accurate. With the development of Machine learning algorithms, especially the deep learning, AIGC has made great breakthroughs. In recent years, Large scale language models, such as Chat-gpt, KIMI, Deepseek, future improve the ability of AIGC, for they can deal with complicated natural language tasks and generate high-quality and continuous texts.

The advantages of AIGC can effectively solve tough teaching problems. It can write articles, stories as well as translate texts with fluent and logical language. The technology of picture generation can generate different pictures according to the requirement of picture description. Audio synthesis can mix different styles of music which bears the feature of natural timbre and intonation. The common feature of these technology is its efficiency, creativity and individuality. It offers many possibilities for College English teaching, for it can generate enormous materials in short time; the generate contents bear unique perspective, and the contents can be generated according to users' preferences.

3 Application scenarios of aigc in college English teaching

3.1 Situation creation and introduction

In college English teaching, the creation of situations is crucial to stimulate students' interest in learning and improve their language use ability. AIGC technology can help create situations in many ways. For example, AIGC technology can be used to generate realistic scene pictures according to the teaching theme. When explaining a unit related to tourism, AIGC can generate pictures of famous places around the world, so that students can feel as if they were there, visualize the cultural characteristics of different regions, and lay a foundation for subsequent language learning. In listening teaching, audio generation technology can create diversified listening situations, such as simulating conversations in airports, restaurants, meetings and other scenarios, so as to make the listening materials closer to real life, enhance students' sense of immersion, and improve the effect of listening training. The vivid situations generated by AIGC can effectively attract students' attention and motivate them to actively participate in the classroom. AI-driven English

speaking practice software can provide students with real-time simulation environments for speaking dialogues. Students can choose different scenarios and topics to practice with virtual characters, and the AIGC system will evaluate students' intonation, pronunciation accuracy, grammar and vocabulary choices in real time and give them specific suggestions for improvement.

3.2 Teaching resource generation and enrichment

Traditional teaching resources are often in a single form and not updated in time. AIGC technology can greatly enrich teaching resources. Teachers can use text generation tools to generate targeted reading materials and writing models according to the syllabus and students' actual levels. For English reading training at different levels of difficulty, AIGC can generate articles covering a variety of topics and genres, with corresponding reading comprehension questions and answer explanations. For vocabulary teaching, AIGC can generate vocabulary memory cards, including explanations of words, example sentences, near-synonyms, antonyms, etc., and present them in the form of illustrations to help students better understand and memorize vocabulary. In addition, AIGC can integrate network resources to provide teachers with the latest English news, movie and TV clips and other teaching materials, so that the teaching content can keep pace with the times and meet the students' needs for diversified learning resources.

AIGC can generate English skit scripts for students to role-play in the classroom in order to improve the students' oral expression ability and flexibility in language use; write English song lyrics for students to deepen their understanding of English vocabulary by learning to sing songs. AIGC can generate English short drama scripts for students to role-play in order to improve their oral expression and flexibility in language use; write English song lyrics for students to deepen their memorization of English vocabulary, grammar and pronunciation through singing; and create English stories or news reports to be used as materials for reading comprehension and writing teaching to cultivate students' interest in reading and writing. These teaching materials created by AIGC are often creative and interesting, which can attract students' attention and stimulate their motivation and initiative in learning.

3.3 Personalized learning support

AIGC is able to analyze students' learning behavior data, such as online learning hours, homework completion, test scores, vocabulary mastery progress, etc., to gain a deeper understanding of the strengths and weaknesses of each student's English learning, and to conduct accurate learning needs analysis.

Based on the accurate understanding of students' learning needs, the AIGC platform can customize a personalized English learning path for students. At the same time, AIGC can dynamically adjust the learning path, updating the learning tasks and goals in real time according to the progress or difficulties encountered by the students in the learning process, ensuring that the students are always on the right track for their own learning.

AIGC can integrate massive English learning resources, including online courses, e-books, academic articles, audio and video materials. Based on students' learning progress and needs, it intelligently recommends relevant learning resources. For example, when students are learning business English writing, the AIGC system can recommend the latest business English writing tutorials, excellent business letter examples and relevant business news reports to help students broaden their horizons and deepen their understanding and application of what they have learned. These recommended resources are not only highly targeted, but also keep up with the development of the English language and the trend of topics in different fields, so that students can be exposed to a rich variety of English materials that are up-to-date with the times.

3.4 Intelligent evaluation and feedback

In the evaluation of college English teaching, AIGC technology can realize intelligent and efficient evaluation and feedback. AIGC can assist teachers in constructing a more diversified teaching evaluation index system, covering multiple dimensions such as students' mastery of linguistic knowledge, use of linguistic skills, application of learning strategies, cross-cultural communicative awareness and competence, and learning attitudes and emotional factors. For students' writing assignments, the AIGC Writing Review Tool can quickly detect grammatical errors, improper use of vocabulary, etc., and provide suggestions for revision and scoring of essay quality. For speaking evaluation, through speech recognition and analysis technology, AIGC can assess students' pronunciation accuracy, fluency, intonation, etc. and provide specific directions for improvement. For example, after a student completes an oral retelling task, AIGC can evaluate the content integrity, language accuracy, expression fluency and other dimensions, and generate a detailed feedback report. This kind of instant and comprehensive evaluation and feedback helps students understand their own learning situation and adjust their learning strategies in time, and also reduces the heavy burden of teachers' corrections, so that teachers can devote more energy to personalized instruction. Based on the real-time monitoring of students'

learning process and the analysis of diversified evaluation indicators, AIGC can generate personalized evaluation feedback reports for each student. These feedback reports not only contain basic information such as students' learning performance, learning strengths and weaknesses, but also provide detailed analysis of the causes of each student's specific problems and suggestions for improvement.

3.5 Virtual interactive learning

AIGC technology can build a virtual interactive learning environment to provide students with an immersive language learning experience. AI Learning Partners can organize or participate in group discussions, guide topics, ask questions, and summarize ideas to simulate an active group learning atmosphere and create a learning community. With the help of Virtual Reality (VR) and Augmented Reality (AR) technologies, AIGC can create virtual English learning scenarios, such as virtual English corners and simulated international business negotiation scenarios. In the virtual English corner, students can communicate with virtual characters or other online students in real time to practice their oral expression and communication skills. In the simulated business negotiation scenarios, students can use English to conduct business negotiations in a realistic environment and improve their practical business English skills. In addition, AIGC can generate virtual language learning partners to accompany students in their daily learning, answer students' questions, give encouragement and support at any time, and enhance the autonomy and fun of students' learning.

4 Challenges and countermeasures of aigc application in college English teaching

4.1 Technical limitations and countermeasures

Despite the rapid development of AIGC technology, there are still some technical limitations. For example, text generation may have problems such as factual errors and illogicality; image generation is sometimes not accurate enough in detail processing and semantic understanding; and the naturalness and emotional expression of speech synthesis need to be further improved. To cope with these problems, on the one hand, technology developers should continuously optimize the algorithms to improve the accuracy and reliability of the AIGC system. Through the training and verification of a large amount of data, the error generation can be reduced. On the other hand, when teachers use AIGC content, they need to carry out secondary review and screening, and revise and improve the content with their teaching experience to ensure the quality of teaching resources. At the same time, they should cultivate students' critical thinking, guide them to analyze and judge the AIGC content without blindly relying on it, and improve their ability to identify the authenticity, quality and inferiority of information.

4.2 Educational ethical issues and solutions

The application of AIGC arouses a series of ethical issues. For example, students may be over-dependent on AIGC to accomplish their homework and exam, and this will lead to academic misconduct. It may also cause the issue of privacy protection, for learning data may be released when they use AIGC. As to the issue of academic misconduct, both schools and teachers should strengthen instruction, make clear of the academic norms and ethics and train students' integrity awareness. At the same time, multiple assessment measures should be adopted to reduce the motivation of using AIGC. Apart from the final assessment, process evaluation should also be emphasized. As to the issue of data protection, strict data management system should be set up and encryption technology should be adopted to ensure the security and privacy of student data, making sure that data is only used for teaching and is not illegally obtained or abused.

4.3 Teacher' adaptation and enhancement

Incorporating AIGC into university English teaching poses new challenges to teachers. Some teachers may not be familiar with AIGC technology and lack the ability to use it effectively in their teaching. In order to help teachers adapt to this change, schools should strengthen teachers' training and carry out lectures and workshops related to the application of AIGC technology, so as to improve teachers' knowledge and operation level of AIGC technology. Encourage teachers to actively participate in the exploration of teaching practice and try to deeply integrate AIGC technology with teaching in accordance with the characteristics and teaching objectives of the curriculum. At the same time, a teacher exchange platform is established to promote the sharing of AIGC teaching application experience among teachers and the joint solution of problems encountered, so as to promote the professional growth of teachers in the era of AIGC and to better play the role of teachers in guiding and directing teaching.

5 Conclusion

AIGC technology shows rich application scenarios in university English teaching, from context creation, teaching resource generation to personalized learning support, intelligent evaluation and feedback, and virtual interactive learning, etc., bringing many innovations and changes to university English teaching, which helps to improve the quality of teaching and satisfy the diverse learning needs of students. However, in the process of its application, it also faces the challenges of technological limitations, educational ethics and teachers' adaptation. Through the optimization of technology, the formulation of ethical norms and the improvement of teachers' competence, these challenges can be effectively dealt with, and the reasonable and effective application of AIGC technology in university English teaching can be promoted. In the future, with the continuous development and improvement of AIGC technology, the integration of AIGC technology with university English teaching will be more in-depth, which will provide powerful support for cultivating high-quality talents with international vision, innovation ability and comprehensive English application ability, and help university English teaching realize a new leap forward in the digital era.

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Weihong Chen (born in April 1979), master's degree, associate professor, research interest : translation theory and practice, English teaching methodology, etc.

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