

Research on the Innovation Path of AI-Enabled College English Teaching

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ABSTRACT

With the rapid development of artificial intelligence technology, its application in the field of education has gradually become a research hot spot. This paper aims to explore how AI can enable college English teaching innovation, analyze the current situation of College English teaching, elaborate the multi-dimensional application of AI technology in teaching, and put forward the corresponding innovation path, in order to provide theoretical and practical reference for improving the quality of College English teaching, so as to meet the needs of the development of education in the new era.

KEYWORDS

Artificial intelligence; College English; Teaching innovation; Path research

1 Introduction

With the advancement of the digital wave, the field of education has ushered in profound changes. The Ministry of education's *Education Informatization 2.0 Action Plan* explicitly calls for the reconstruction of education concepts and models driven by information technology (Ministry of education, 2018), which points out the direction for higher education. As an important part of College English teaching, innovation and reform are imminent. The traditional college English teaching mode has some limitations in teaching methods, resource utilization and personalized teaching, which is difficult to meet the needs of talent cultivation in the new era. In this context, the rise of AI technology has brought new opportunities and challenges to college English teaching. AI enabled College English teaching has become an inevitable trend to comply with the development of the times.

2 Current situation of college english teaching

2.1 Traditional teaching methods

At present, many college English classes are still dominated by teacher-centered teaching mode. Under this mode, teachers occupy a dominant position in the classroom, imparting knowledge to students through blackboard writing and explanation, neglecting the practical application of language as a communication tool. Students, on the other hand, are mainly passive recipients of knowledge, lacking a sense of participation and experience, and are prone to feel bored and lose interest in English learning. Although this mode of teaching is systematic and efficient in terms of knowledge transfer, it is obviously insufficient in terms of stimulating students' interest and meeting their individual needs.

2.2 Inability to accommodate student individual differences

The traditional teaching mode often adopts the *one-size-fits-all* teaching method, which is unable to carry out personalized teaching according to the characteristics of each student. The number of College English teaching classes is large, and the students' English foundation, learning ability and learning style are quite different. It is difficult for teachers to carry out personalized teaching according to the different characteristics of each student in the teaching process, which leads to some students' learning difficulties, can not keep up with the teaching progress, and gradually lose their learning confidence, while some students who have spare capacity can not get full development.

2.3 Inadequate utilization of teaching resources

Despite the increasing abundance of digital teaching resources, the application of these resources in actual teaching is often not deep enough and extensive. Teachers' ability to integrate teaching resources is limited, and students' awareness and ability to independently utilize resources for learning are also weak, resulting in a large number of high-quality teaching resources being idle and unable to effectively play their role in teaching.

3 Application advantages of AI-enabled college english teaching

3.1 Creation of personalized learning experience

AI can formulate a personalized learning plan for each student based on students' learning data, such as learning progress, knowledge mastery, question answering speed and accuracy. Through in-depth analysis of students' learning behavior, AI can accurately identify students' weak points and advantageous fields of knowledge, so as to push learning resources. Personalized learning experience can fully meet the learning needs of different students and improve learning efficiency and effect.

3.2 Enrichment teaching resources and forms

AI brings rich and varied teaching resources and innovative teaching forms to college English teaching. With the help of AI technology, teachers can access a large number of English learning materials, including virtual scenes, intelligent interactive courseware, English original sound film and television works, online English learning platform, etc. These resources, with their vivid and intuitive characteristics, create a more authentic and interesting learning environment for students and greatly activate the classroom atmosphere.

3.3 Enhancement of the scientificity and accuracy of teaching assessment

AI-automated assessment tool plays an important role in College English teaching assessment, which can comprehensively and objectively assess students' learning process and results, and provide a scientific basis for teaching adjustments. AI can also predict students' learning trends and possible difficulties through the analysis of students' learning data, and provide early warning for teachers in advance, so that teachers can adjust teaching strategies in time and provide targeted guidance for students.

4 Exploration on the innovation path of AI-enabled college english teaching

4.1 Construction of personalized teaching system based on AI

In today's College English teaching, in-depth analysis of students' learning data with AI technology has become a key measure to achieve accurate teaching. Through various channels such as learning management system, online learning platform and intelligent teaching tools, students' data on classroom participation, homework completion, test scores, learning duration, and online discussion activity can be comprehensively collected. These rich data provide strong support for in-depth understanding of students' learning status.

Taking the intelligent learning platform as a typical example, its powerful function can create a highly personalized learning path for students. When students log in to the platform, the platform will conduct a comprehensive assessment based on their past learning data. In terms of listening learning, the platform will give priority to pushing courses and practice resources related to listening training. These resources may range from basic listening materials for daily English dialogues to increasingly difficult listening materials for English news and academic lectures. At the same time, the platform will dynamically adjust the difficulty of listening materials and training methods according to students' practice feedback. If students have a high error rate in listening practice at a certain difficulty level, the platform will automatically reduce the difficulty and provide more targeted guidance; On the contrary, if students perform well, they will gradually increase the difficulty and challenge higher-level listening content.

In terms of vocabulary learning, the intelligent learning platform can also achieve personalized customization. It will make a special vocabulary learning plan for students according to the results of students' vocabulary test and their usual vocabulary use. For students with a limited vocabulary, the platform will start with basic vocabulary and use a combination of memory methods, such as root affix memory, associative memory, etc., with a large number of example sentences and exercises to help students deepen their understanding and memory of vocabulary. For students with rich vocabulary, the platform will push some high-level vocabulary, synonym discrimination and the use of vocabulary in different contexts, so as to further expand the students' ability to use vocabulary. Through the construction of such a personalized teaching system, students can learn efficiently at their own pace and level, so as to improve the learning effect and learning experience.

4.2 AI assisted interactive classroom teaching mode

In College English classroom, the ingenious use of AI technology to carry out diversified interactive activities can greatly enhance students' participation and collaboration ability. Group discussion is a common and effective form of

interaction. With the help of AI tools, teachers can scientifically group students according to their learning ability, personality characteristics, language level and other factors, so as to ensure that each group has diversified characteristics, which is conducive to mutual learning and inspiration between students. During the discussion, AI intelligent assistant can provide students with relevant materials and background knowledge at any time to help them better understand the topic of discussion. At the same time, AI can also monitor and analyze the discussion process of students, record the number of students' speeches, the clarity of their views, the situation of team cooperation, etc., and provide detailed feedback for teachers, so that teachers can adjust teaching strategies in time and guide students to discuss more effectively.

Role-playing activities are also an important part of AI-assisted interactive classroom. AI can simulate various real scenes, such as business negotiations, tourism exchanges, cultural exchange activities, etc., and provide students with rich role-playing situations. Students play different roles in these situations, use English for communication and interaction, and can more truly feel the application of English in real life.

Project-based learning can also be better developed with the support of AI. Teachers can use AI to design challenging and interesting English projects, such as making English culture documentaries, writing English drama scripts and performing. In the process of completing the project, students need to use English to carry out a series of activities, such as data collection, team cooperation, scheme planning, achievement display and so on. AI can provide guidance and support for students at all stages of the project. For example, in the data collection stage, it can help students select and sort out relevant English literature and data; Provide suggestions on communication skills and cooperation methods in the process of team cooperation; In the stage of achievement display, the students' English expression and display effect are evaluated and fed back. Through project-based learning, students can comprehensively apply their English knowledge to practical projects, improve their problem-solving ability and innovative thinking, and enhance their team spirit and autonomous learning ability.

4.3 Utilizing AI to expand teaching resources and channels

The rapid development of AI technology has brought rich and diverse teaching resources to college English teaching and greatly expanded teaching channels. Among them, virtual dialogue partners are a major characteristic resource of AI enabled teaching. Students can practice real-time dialogue with virtual dialogue partners through intelligent learning software. Virtual dialogue partners can flexibly adjust the difficulty and content of dialogue according to students' language level and communication needs. Whether it is daily life exchanges or academic discussions in professional fields, virtual dialogue partners can carry out in-depth exchanges with students and provide students with more opportunities for oral practice.

Simulated language environment is also an important resource created by AI for English teaching. With the help of virtual reality (VR) and augmented reality (AR) technology, AI can build a highly realistic English language environment, making students seem to be in the real scene of English speaking countries. In the simulated English classroom environment, students can interact with virtual classmates and teachers from different countries to understand different cultural backgrounds and learning methods. In the simulated social environment, students can participate in various social activities, such as parties, shopping, tourism, etc., and communicate in English in actual situations to improve the practical ability of language use. In addition, AI can dynamically adjust the difficulty and content of the simulated language environment according to the students' learning situation and feedback, so as to achieve a personalized learning experience.

In terms of expanding teaching channels, the teaching mode of online and offline integration has become a trend. The online teaching platform relies on AI technology to provide students with rich learning resources and convenient learning methods. Students can access the online platform through mobile phones, computers and other terminal devices anytime and anywhere, and carry out activities such as course learning, homework submission, testing and evaluation. When students encounter problems in the learning process, they can ask AI intelligent assistant questions at any time to get timely answers and guidance. Offline classroom focuses on students' interactive communication and practical operation. Teachers can conduct targeted teaching guidance and activity organization by combining the data and feedback of online learning. By integrating online and offline teaching modes, the advantages of AI technology are fully utilized to provide students with a more comprehensive and efficient learning experience.

4.4 Innovation of teaching assessment and feedback mechanism based on AI

The application of AI technology in the teaching evaluation and feedback mechanism has brought new changes to college English teaching, realized the multi-dimensional and comprehensive evaluation of students' learning achievements and processes, and can provide instant feedback to effectively promote students' autonomous learning. The traditional teaching evaluation often focuses on the examination results and the completion of homework, which is

difficult to fully reflect the students' learning process and comprehensive quality. AI can integrate students' data in classroom learning, online learning, homework completion, group activities, oral expression, writing practice and other aspects, and comprehensively evaluate students' learning from multiple dimensions.

In terms of learning achievement evaluation, AI can not only analyze students' test scores, but also evaluate students' mastery of knowledge and application ability by mining students' daily learning data. In the evaluation of learning process, AI can track students' learning behavior, such as the allocation of learning time, the frequency of use of learning resources, and the enthusiasm to participate in discussion, so as to evaluate students' learning attitude, learning methods, and autonomous learning ability.

AI can also achieve instant feedback, which is an incomparable advantage of traditional teaching evaluation. When students finish their homework or conduct online tests, the AI system can quickly give evaluation results and detailed feedback. For English composition, AI can not only point out grammar errors, spelling errors and other basic problems, but also comprehensively evaluate the structure, logic, language expression, vocabulary use and other aspects of the article, and provide specific suggestions for improvement. In oral practice, AI uses speech recognition technology to analyze students' pronunciation, intonation, speed, fluency, etc. in real time, and give timely correction and guidance, so that students can understand their oral problems and make improvements at the first time. This instant feedback mechanism enables students to adjust their learning strategies in time, solve problems encountered in learning, enhance their autonomy and enthusiasm in learning, and promote students' continuous progress and improvement.

5 Conclusion and prospect

AI technology has brought unprecedented opportunities for College English teaching innovation. By constructing personalized teaching system, innovating teaching methods and modes, expanding teaching resources and channels, optimizing teaching evaluation and feedback, the quality of College English teaching can be effectively improved to meet the diverse learning needs of students. However, in the process of implementation, we also need to pay attention to and deal with the challenges faced by technology, teachers and students, so as to ensure that AI can truly empower College English teaching, promote college English education to a higher quality and more personalized development direction, and cultivate high-quality talents with international vision and cross-cultural communication ability that meet the requirements of the new era.

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