

Strategies for Improving College English Teaching Effectiveness Based on Artificial Intelligence

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Abstract: With the rapid development of artificial intelligence (AI) technology, the field of education has ushered in new opportunities and challenges. Especially in college English teaching, the application of AI provides new possibilities for improving the teaching effect. This paper aims to explore how to effectively improve the quality of college English teaching in the context of AI. By analyzing the current situation and problems in college English teaching and combining them with the development of AI technology, this paper puts forward corresponding strategies and schemes, aiming to provide reference for college English teaching.

Keywords: Artificial intelligence; College English teaching; Teaching effect; Strategy research

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1. Introduction

Language is a communication tool that can express and transmit thoughts. Every country in the world has its unique language, but English is one of the most used languages in the world. The importance of English across the world cannot be denied and ignored^[1]. In the context of globalization, English, as an international lingua franca has become increasingly important to learn and use^[2]. College English teaching is not only important for students when acquiring knowledge, but also a key in improving their comprehensive quality.

Therefore, it is of great significance to improve the effectiveness of college English teaching. In recent years, the rapid progress of global artificial intelligence technology has become an important driving force to promote the rapid development of science and technology in the industry and has had a profound impact on the development of economic society and the progress of human civilization. With the progress of technology, artificial intelligence (AI) has emerged as a viable aid in the field of education, including language acquisition, as technology advances^[3]. As an emerging technology, artificial intelligence technology

is expected to enhance the teaching effect through personalized learning, intelligent evaluation, and data analysis. This article will discuss this in depth.

2. What is artificial intelligence

Artificial intelligence (AI) is the process of modeling human thinking and designing a machine so that it can behave like humans or other terms called cognitive tasks, namely how machines can learn automatically from programmed data and information. Artificial intelligence can also be interpreted as artificial intelligence or AI is one part of computer science that makes machines (computers) able to do work as and as well as humans do ^[4]. AI systems through algorithms and data processing, can analyze information and improve themselves. In the field of education, the application of AI technology has gradually penetrated personalized learning, intelligent assessment, and data analysis.

3. Current situation of college English education in China

3.1. Teaching methods

At present, college English is a compulsory subject for contemporary college students, and the course content often includes the cultivation of four basic skills: listening, speaking, reading, and writing ^[5]. The goal of English courses in many colleges and universities is to improve students' basic English ability and academic English ability to adapt to future study and work needs. However, in the teaching process, most schools still adopt traditional teaching methods, with teachers giving lectures while students passively listen to lectures and mainly follow the teachers' ideas for learning ^[6]. However, in recent years, more and more colleges and universities have begun to introduce new teaching models such as task-based, interactive, and flipped classrooms, emphasizing students' active participation and practical application ability.

3.2. Students' English level

In addition, the English level of college students varies. Some students are excellent in listening and speaking and can communicate confidently, while others are relatively weak in these two aspects and may only have limited comprehension or expression skills. Some students have a rich vocabulary and can use complex sentences and more accurate grammatical structures. Some students have a small vocabulary and are prone to grammatical errors, which affects the accuracy and fluency of communication. In addition, the quality of English teaching varies greatly from school to school or region. Students from schools with better educational resources tend to be stronger in English ability, while students from areas with relatively poor resources may be deficient in basic knowledge and skills. In the process of English teaching, students' attitude and motivation towards English learning also affect their English level. Some students can take the initiative to participate in communication and practice and constantly improve their English ability, while others may lack interest or motivation, resulting in poor learning results.

Meanwhile, some students lack opportunities for practical use of English (such as international exchange, foreign language corners, etc.). As a result, it is difficult to improve their oral English and listening skills. These differences not only reflect the learning background and ability of individual students but also are closely related to many factors such as teaching methods and resource allocation. Therefore, in college English education, more targeted attention and support should be paid to students with different levels to

improve their overall English level. Such differences make classroom teaching challenging, and teachers should formulate corresponding teaching programs according to students' different learning levels.

3.3. In terms of evaluation standards

The teaching evaluation standards are rigid, and the teaching evaluation adopted by all subjects of education in China is an examination, so it is called exam-oriented education ^[5]. Most colleges and universities adopt standardized tests (such as CET-4, CET-6) as an important standard to evaluate students' English level, which leads some students to focus on the training of test-taking skills, rather than the improvement of practical language application ability.

3.4. Teachers' quality

With the advancement of globalization, more and more colleges and universities have begun to pay attention to the cultivation of intercultural communication ability, set up relevant courses, and constantly improve the professional quality and teaching ability of English teachers. Many teachers participate in training and academic exchanges at home and abroad. However, in some regions, continuing education and professional development opportunities for teachers are still limited. With the development of information technology, emerging learning methods such as online learning and mobile learning have been gradually introduced into English teaching, helping to improve the flexibility and accessibility of learning. However, how teachers can effectively integrate these technologies to enhance teaching effectiveness still needs to be further explored.

4. The advantages of AI technology in college English teaching

Artificial intelligence (AI) is believed to be able to help humans learn better and achieve educational goals more effectively ^[4]. Through AI technology, college English teachers can improve English teaching effect in many aspects. It is mainly reflected in the following aspects: AI-powered language learning platforms offer personalized and adaptive learning experiences, enabling learners to progress at their own pace. Moreover, AI algorithms can analyze learners' strengths and weaknesses, providing tailored feedback and targeted practice activities. Additionally, the research investigates the role of AI in enhancing learners' abilities to speak fluently and comprehend what they hear from other English language speakers. Furthermore, the study delves into the potential of AI in promoting cultural understanding and intercultural communication. Using AI technologies, learners can engage in immersive and authentic language experiences, such as virtual conversations with AI-powered language tutors ^[7]. AI can automatically evaluate students' assignments and exams, providing detailed feedback by analyzing students' writing and answering. AI can recommend suitable learning resources according to students' interests and learning needs, such as articles, videos, exercises, and so on, to enhance the interest and effectiveness of learning. Teachers can use a variety of AI-based language learning applications to help students train in listening, speaking, reading, and writing, enhancing the opportunities for language practice. Use AI to create virtual learning environments for students to practice English in simulated real scenarios, such as role-playing or conversation exercises, to improve their language application ability. Teachers can use AI to analyze students' learning data to understand their learning progress and existing difficulties, to adjust teaching strategies and content. AI can help automatically record classroom interactions, analyze student engagement and classroom performance, and teachers can give

feedback accordingly to improve teaching methods. An AI platform will be adopted to promote exchanges with foreign universities and students, providing students with a real language environment and improving their practical application ability. AI can provide teachers with professional development resources to support them in learning new teaching methods and tools, thereby improving the overall quality of teaching.

5. Strategies for improving the effectiveness of college English teaching based on artificial intelligence

5.1. Change the teaching concept

To make full use of AI technology and improve the effect of college English teaching, the first thing teachers should do is to change the traditional teaching concepts. As college English teachers, they should not only have a solid knowledge of the language but also have an awareness of role change. To meet the requirements of college English teaching in the new era, they should step out of the traditional role of English teachers and become the collectors and providers of students' learning resources. At the same time, teachers should be the monitor of students' learning process, the organizers and designers of learning links, the evaluator of learning performance and self-teaching process, and more importantly, they should be the encourager of students' independent learning and the cooperator and participant of students' classroom activities. Teachers should be transformed from knowledge imparters to learning guides and supporters, and pay attention to students' individual learning needs so that students have more initiative in the classroom.

5.2. Use AI for personalized teaching

With the support of AI technology, teachers can make personalized learning plans and goals for each student. For example, an adaptive learning platform can be used to analyze students' learning data and identify their strengths and weaknesses, so that teaching content and strategies can be adjusted so that each student can learn at their own pace.

5.3. Enhance classroom interaction

Through the use of AI tools and software, teachers can design more interactive classroom activities. For example, with an online question-and-answer system, teachers can learn about students' understanding and emotional state in real time, and adjust class progress and teaching strategies in a timely manner. Activities such as group discussions and peer evaluations will be increased, and AI technology will be used to promote cooperative learning.

5.4. Introduce intelligent evaluation and feedback mechanism

Use AI technology to conduct intelligent evaluations of students' homework and provide immediate feedback to students. For example, use intelligent writing assistants to help students check spelling and grammar, and offer suggestions for improvement to enhance their writing skills. At the same time, teachers should attach importance to process-based assessment, focusing on students' learning process, not just the final result.

5.5. Improve teachers' professionalism

To effectively apply AI technology to English teaching, teachers should participate in professional training to improve their awareness and ability to use emerging technologies. Colleges and universities should provide

relevant technical training courses for teachers to promote better integration of AI tools in their teaching.

5.6. Promote interdisciplinary cooperation

Since AI technology can be applied to a variety of disciplines, such as education, language teaching, computer science, and psychology, Chinese institutions of higher learning can choose interdisciplinary cooperation to inject new vitality into English teaching and actively explore diverse teaching methods and strategies to enhance the overall quality of students.

5.7. Strengthen international exchanges and cooperation

Chinese institutions of higher learning can learn from the successful experience of other countries in the field of artificial intelligence education, and actively promote international experience exchange and cooperation. This will not only help improve the educational level of the university but also provide students with a broader vision and development opportunities. By actively introducing modern educational technologies and concepts, teachers can create more diverse and rich learning resources for students, so that they can continuously improve their competitiveness in practice and adapt to the rapidly changing needs of society.

Disclosure statement

The authors declare no conflict of interest.

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