

Research on the Application of Artificial Intelligence Technology in College English Teaching

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Abstract: With the continuous progress of science and technology and the development of society, artificial intelligence technology has become increasingly mature and widely applied. In the context of the digital-intelligence era, universities are exploring effective ways to apply artificial intelligence technology in teaching, aiming to promote teaching reform and development and provide better educational services for students. Based on this, this paper first analyzes the significance of applying artificial intelligence technology in college English teaching, then elaborates on its specific applications, and finally introduces some safeguard measures to support the effective application of artificial intelligence technology in college English teaching, hoping to provide some reference for peers.

Keywords: College English; Artificial intelligence technology; Teaching application

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1. Introduction

In the context of the digital-intelligence era, artificial intelligence technology is emerging and has had an impact on people's production and life^[1]. Applying artificial intelligence technology to college English teaching is conducive to promoting the integration of resources, improving students' learning efficiency and effectiveness, and facilitating the reform and development of college English. Therefore, as a college English teacher in the new era, it is necessary to explore the teaching application of artificial intelligence technology to better promote students' learning and development.

2. Significance of applying artificial intelligence technology in college English teaching

2.1. Facilitating the integration of teaching resources

In college English teaching, teachers can use artificial intelligence technology to collect and integrate more online learning resources, which is beneficial for expanding the capacity of classroom teaching, enabling students to access more professional English learning resources, and thus broadening students' knowledge horizons.

Moreover, teachers can also use artificial intelligence technology to comprehensively understand students' classroom performance and after-class learning situations. This allows teachers to accurately identify students' learning needs and adjust teaching implementation plans and teaching resources accordingly, providing precise education and guidance for students' learning and development^[2].

2.2. Enriching students' learning experiences

Functions such as automatic recognition and translation, and natural language understanding in artificial intelligence are closely related to college English, a language-based course. Their application not only provides convenience for teaching and learning but also enriches students' learning experiences^[3]. In college English classes, teachers can use semantic recognition technology, visual processing technology, and other artificial intelligence-based technologies to conduct teaching, stimulating students' senses and enabling them to immerse themselves in a good classroom atmosphere to learn English knowledge and practice English skills.

2.3. Meeting students' personalized learning needs

Firstly, the application of artificial intelligence technology can provide a large amount of high-quality learning resources for college English teaching. Students can search for and select learning materials that better meet their needs, such as e-textbooks, exercise questions, and micro-lecture videos, according to their actual needs and interests^[4]. This gives students more choices in learning and makes their learning unique. Secondly, with the support of artificial intelligence technology, students can more accurately analyze their learning behaviors and English scores and conduct targeted learning based on the personalized recommendations of the artificial intelligence platform, which is an important manifestation of promoting students' personalized development. Finally, students can also use the artificial intelligence platform to flexibly arrange their learning time and progress without being restricted by time and space. This more flexible learning method is more likely to meet students' personalized learning needs.

2.4. Promoting the reform of college English teaching

In the context of the digital-intelligence era, education in China is transforming and upgrading towards digitalization, intelligence, informatization, and networking^[5]. The application of artificial intelligence technology is not only an effective means to promote the reform of college English teaching, but also an important reflection of conforming to the requirements of the times. On the one hand, in terms of the teaching mode, the application of artificial intelligence technology can effectively break through the time-space limitations of traditional college English teaching and enhance the application effect of the blended teaching mode. On the other hand, in terms of teaching evaluation, teachers can use artificial intelligence technology to accurately analyze students' pronunciation, fluency, and accuracy, which is conducive to improving the effectiveness of classroom teaching evaluation^[6].

3. Specific applications of artificial intelligence technology in college English teaching

3.1. Conducting intelligent translation teaching

Translation is an important part of college English teaching and a key point for students' learning^[7]. In the context of the digital-intelligence era, college English teachers should attach importance to the effective application of artificial intelligence technology in translation teaching. By using artificial intelligence platforms, teachers can

guide students to conduct intelligent translation or carry out diversified English translation teaching activities and online English translation training through video courseware, animated courses, micro-lectures, etc., to achieve human-machine intelligent interaction and improve students' English translation ability^[8]. In addition, teachers can also release some English translation training tasks on the artificial intelligence platform according to the teaching content, requiring students to choose a translation method (either oral or written) according to their preferences and upload the translated results to the platform. After that, the artificial intelligence platform can automatically evaluate and score students' translation work. Teachers can then check students' task completion at any time, analyze the problems students encounter or areas that need improvement, and design subsequent translation teaching implementation plans based on this, and adjust the original English translation training mode and content accordingly to better provide educational guidance for students.

3.2. Conducting an interesting grammar explanation

With the assistance and support of artificial intelligence technology, teachers can summarize the key and difficult points of teaching according to students' learning situations, design corresponding teaching modules, and construct a new teaching system to achieve intelligent teaching. For example, in English grammar teaching, teachers can use artificial intelligence technology to design a more interesting and innovative "Vocabulary and Grammar Explanation" module. By integrating various teaching resources such as animations, audio, videos, and texts, complex grammar knowledge can be presented to students more intuitively and vividly, bringing students a good learning experience^[9].

In addition, teachers can also let students use the artificial intelligence platform to draw mind maps, enabling students to better understand the role of English roots, prefixes, and suffixes in vocabulary memorization and helping them clarify the relationships between knowledge points, to promote students' application of knowledge. Moreover, teachers can use expert system technology to build an artificial intelligence learning platform and encourage students to ask questions based on their needs. The platform can use its powerful database to provide intelligent answers to students in a timely and rapid manner, which is conducive to strengthening human-machine interaction, increasing the fun of teaching, and further improving students' learning enthusiasm. Teachers can efficiently and accurately summarize students' questions through this platform and explain them in-depth in offline classes, thus expanding the depth and breadth of teaching.

3.3. Conducting interactive listening training

For students, listening training is a major difficulty in learning English. Whether they can understand and correctly interpret the content is the key and an important measure of the effectiveness of listening training, which directly affects the quality of students' English learning^[10]. In the context of the digital-intelligence era, college English teachers should base on students' actual learning needs, collect and integrate more practical listening training materials from a large amount of network resources, and use artificial intelligence technology to accurately analyze students' listening status and design targeted training plans to ensure the effectiveness and hierarchy of students' training and improve the interaction effect between students and artificial intelligence.

3.4. Conducting cross-cultural oral communication

At present, the development of society and the times increasingly requires compound talents with high comprehensive abilities and good overall qualities. Therefore, in college English teaching, the content taught by teachers should not be limited to textbooks. Instead, attention should be paid to the coordinated development of

students' knowledge, skills, and qualities. To this end, teachers can organize students to conduct cross-cultural oral communication training to exercise students' comprehensive English abilities and improve their overall English abilities through language practice. With the support of artificial intelligence technology, the training forms of students' cross-cultural oral communication will be innovated, which is helpful for students to improve their oral English expression abilities.

For example, in teaching, teachers can use the artificial intelligence platform to generate text-based dialogue videos from the content of textbooks for students to learn and watch. This can not only correct students' oral pronunciation and cross-cultural communication errors promptly but also integrate cultural knowledge of different countries, broadening students' knowledge horizons. At the same time, teachers can also use artificial intelligence technology to build a dialogue platform for students' cross-cultural oral communication, allowing students to communicate with people from different countries online, so that they can continuously master the methods and techniques of cross-cultural communication in practice and ultimately strengthen their oral English expression abilities^[11]. In addition, teachers can use artificial intelligence technology to create a virtualized vocational dialogue scenario for students, allowing them to conduct job-hunting simulation training in English. This can not only promote the integration of English courses and students' professional teaching, enrich students' cross-cultural communication experiences, but also lay a good foundation for students to enter society and the workplace in the future.

3.5. Conducting dynamic teaching evaluation

In the context of the digital-intelligence era, college English teachers also need to pay attention to the reform of teaching evaluation and strengthen the application of new-generation information technologies, including artificial intelligence technology, to improve the accuracy and effectiveness of teaching evaluation. Firstly, teachers can use artificial intelligence technology to monitor students' learning processes throughout and use its evaluation function to comprehensively evaluate students' English knowledge acquisition and application, thinking development, learning attitude, values, etc.^[12]

Secondly, teachers can use the tracking and feedback functions of artificial intelligence technology to dynamically present teaching effects and further clarify the indicators and content of teaching evaluation. For example, teachers can use voice assessment to analyze, diagnose, and evaluate students' pronunciation, expression accuracy, and oral fluency with the help of artificial intelligence technology, which can reduce the subjectivity of teachers' evaluation and ensure the objectivity of teaching evaluation^[13].

3.6. Conducting personalized after-class guidance

After class, students' review and independent training can effectively consolidate their English foundation. However, in traditional college English teaching, most teachers focus more on in-class explanations and training and do not provide sufficient educational guidance and services for students after class, which may lead to unsatisfactory learning effects. In the context of the digital-intelligence era, the application of artificial intelligence technology can well solve this problem. Teachers can design after-class assignments of different difficulty levels according to students' learning situations and send them to students through the artificial intelligence platform. Teachers can also answer students' questions promptly or conduct intelligent error-correction on students' assignments, which is conducive to providing more personalized after-class learning guidance for students^[14].

4. Safeguard measures for the application of artificial intelligence technology in college English teaching

4.1. Improving the teaching management system and promoting teaching integration

To ensure the application of artificial intelligence technology in college English teaching, schools need to establish a relatively complete teaching management system and encourage all departments to actively participate in the construction of the intelligent teaching management system. On the one hand, schools should design an integrated teaching plan with the application of artificial intelligence technology as the core to provide a reference for college English teachers' teaching work. On the other hand, schools should encourage English teachers to actively explore the teaching application of artificial intelligence technology to gradually form a more scientific and effective intelligent teaching mode in practice.

4.2. Aligning with classroom teaching objectives and optimizing teaching content

On the one hand, schools should develop online high-quality open courses in combination with the characteristics and teaching objectives of college English, and make overall plans for English course teaching design to guide teachers' teaching work. On the other hand, teachers should further clarify the teaching objectives of listening, speaking, reading, writing, oral expression, and translation, and use artificial intelligence technology to provide students with high-quality learning resources and educational guidance services for corresponding modules to ensure students' learning effects.

4.3. Establishing a professional teaching staff and optimizing courseware design

As the organizers and implementers of classroom teaching interaction, teachers' qualities and abilities directly affect students' learning effects and learning quality^[15]. Therefore, to give full play to the teaching advantages of artificial intelligence, schools should also establish a professional teaching staff with high digital literacy and encourage them to highlight the functional features of artificial intelligence technology in courseware design, laying a solid foundation for teaching applications. For example, schools can invite teachers with certain artificial intelligence teaching experience to give knowledge lectures, providing more opportunities for other teachers to learn and exchange teaching experiences, so as to improve teachers' digital literacy and digital teaching abilities.

5. Conclusion

In general, in the context of the digital-intelligence era, applying artificial intelligence technology to college English teaching is not only a requirement for the development of education in China in the new era but also an important measure for English teaching reform and an effective support for improving teachers' teaching quality and effectiveness. In teaching practice, teachers can use artificial intelligence technology to conduct intelligent translation teaching, interesting grammar explanation, interactive listening training, cross-cultural oral communication, dynamic teaching evaluation, and personalized after-class guidance, etc., to improve the fun and interactivity of English classroom teaching and enable students to obtain a better learning experience. However, schools also need to take corresponding measures, such as improving the teaching management system and promoting teaching integration, aligning with classroom teaching objectives and optimizing teaching content, and establishing a professional teaching staff and optimizing courseware design, to support and guarantee the application of artificial intelligence technology in college English teaching.

Disclosure statement

The author declares no conflict of interest.

References

- [1] Jiang X, Zhou X, 2024, Research on the Application of Artificial Intelligence in College English Translation Teaching in the Information-Based Environment. *Journal of Hubei Open Vocational College*, 37(24): 151–152 + 155.
- [2] Mao T, 2024, Research on the Application of Artificial Intelligence in Personalized College English Teaching. *English Square*, 2024(34): 117–120.
- [3] Qiu X, 2024, Analysis of the Application of Artificial Intelligence Technology in College English Teaching. *Campus English*, 2024(42): 39–41.
- [4] Zhang Y, Zhu Q, 2024, Research on the Reform of College English Teaching Modes under the Background of Artificial Intelligence. *Journal of Hubei Open Vocational College*, 37(19): 157–159.
- [5] Zhou H, 2024, Innovation and Practice of College English Teaching Modes Based on Artificial Intelligence Technology. *English Square*, 2024(29): 85–88.
- [6] Xiang Y, Fang C, 2024, Research on the Multimodal College English Reading Teaching Mode Empowered by Artificial Intelligence Technology. *Anhui Education Research*, 2024(30): 76–78.
- [7] Liu R, 2024, Practical Exploration of Artificial Intelligence (AI)-Assisted College English Writing Teaching. *English Teachers*, 24(18): 168–170.
- [8] Lu H, 2024, Research on the Application of Artificial Intelligence Technology in Outcome-Based English Teaching. *Information System Engineering*, 2024(9): 153–156.
- [9] Zhang G, 2024, Research on the Innovation of College English Teaching from the Perspective of Artificial Intelligence. *English Square*, 2024(23): 103–106.
- [10] Zhu M, 2023, Research on the Blended Teaching Mode of College English under the Background of Artificial Intelligence. *Modern Vocational Education*, 2023(4): 33–36.
- [11] Shao C, 2023, Practical Exploration of College English Teaching under the Background of Artificial Intelligence. *Journal of Heilongjiang Institute of Teacher Development*, 42(1): 64–66.
- [12] Zheng L, 2022, Application of Artificial Intelligence Technology in College English Teaching. *Journal of Jiangxi Vocational and Technical College of Electricity*, 35(8): 66–67.
- [13] Yu B, 2022, Application Strategies of Artificial Intelligence in College English Teaching. *Journal of Guilin University of Aerospace Technology*, 27(2): 262–267.
- [14] Huang L, 2022, Research on the Application of Artificial Intelligence Technology in College English Teaching. *Scientific Consult (Science & Management)*, 2022(1): 235–238.
- [15] Bai F, 2021, Research on the Advantages and Paths of College English Teaching Reform from the Perspective of Artificial Intelligence. *Computer Knowledge and Technology*, 17(21): 101–102.

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