

# Exploration of the Blended Teaching Model for College English with the Support of Artificial Intelligence

Yingying Cui\*

The Tourism College of Changchun University, Changchun, 130607, China

\*Corresponding author: cyy@tccu.edu.cn

**Abstract:** With the rapid development of artificial intelligence technology, its application in the field of education has become increasingly widespread and profound. The main purpose of this article is to deeply explore and analyze the implementation of a blended teaching model for college English supported by artificial intelligence technology, as well as the significant potential of this model in enhancing teaching efficiency and improving student learning outcomes. To fully understand this topic, this article employs various research methods including literature review, specific case analysis, and empirical research. Through these methods, the article not only reveals the obvious advantages of the blended teaching model but also points out the challenges and issues that may be encountered during practical operations. Based on these findings, the article further proposes targeted strategies and suggestions aimed at helping educators better utilize artificial intelligence technology, optimize the teaching process, and ultimately achieve the goal of improving educational quality and learning effectiveness.

**Keywords:** Artificial Intelligence; Blended Learning; College English; Teaching Models

## Introduction

With the continuous advancement of information technology, artificial intelligence (AI) has become an important force driving educational innovation. In the field of college English teaching, traditional teaching models are facing pressure to transform to adapt to the learning needs and habits of students in the new era. The blended teaching model, which combines online and offline teaching resources and methods, has received widespread attention for its flexibility and efficiency. This article aims to explore the blended teaching model for college English supported by AI, analyze its potential for improving teaching efficiency and learning outcomes.

### 1. The integration of artificial intelligence with education.

As technology continues to advance, the application of artificial intelligence in the field of education is rapidly expanding at an astonishing rate. It has brought revolutionary changes to the learning and teaching processes. Here are some key applications of artificial intelligence in education that are gradually changing traditional educational models, providing students and teachers with a more efficient and personalized learning and teaching experience:

#### 1.1 Intelligent teaching system

The intelligent teaching system utilizes advanced artificial intelligence technology, aiming to provide students with a tailored learning experience. These systems possess powerful analytical capabilities, able to deeply understand each student's learning progress, personal interests, and specific needs, and accordingly automatically adjust the depth and difficulty of the teaching content. For example, the intelligent teaching system can accurately identify difficulties and weak points that students encounter on specific topics during the learning process. Subsequently, the system will intelligently provide additional practice questions, supplementary materials, and resources to help students effectively overcome these challenges, thereby enhancing their learning efficiency and outcomes.<sup>[1]</sup>

### ***1.2 Personalized Learning Recommendations***

Leveraging the powerful analytical capabilities of artificial intelligence, it is possible to deeply explore students' learning history, interests, and behavioral patterns across multiple dimensions of data. This allows for the customization of the most suitable learning resources and courses tailored to each student. Such highly personalized recommendation systems not only help students discover novel learning materials they might not have otherwise noticed but also assist in broadening their knowledge domains and increasing the breadth of their learning. Moreover, by continuously providing resources that align with individual interests and learning progress, these systems can effectively maintain students' enthusiasm and motivation for learning, ensuring the continuity and sustainability of the learning process.

### ***1.3 Automatic Grading System***

The application of artificial intelligence technology in automatic grading systems has significantly improved the efficiency of the grading process and the consistency of grading outcomes. These advanced systems are capable of automatically assessing assignments, quizzes, and exams submitted by students, and they can even handle open-ended questions and subjective essay-type questions. With automatic grading systems, teachers' workloads have been greatly reduced, and these systems also provide students with immediate feedback, helping them to keep track of their learning progress and understanding in a timely manner.

### ***1.4 Language learning applications***

In the wave of modern educational technology, artificial intelligence plays a crucial role, especially in the field of language learning applications. These applications widely adopt advanced speech recognition and natural language processing technologies, which not only help students practice pronunciation, listening, and oral communication effectively but also provide immediate feedback and guidance.<sup>[2]</sup>

Some cutting-edge language learning applications can even simulate real-life dialogue scenarios, making students feel as if they are in a real language environment. Through this simulation, students can receive personalized language practice, and the applications can provide tailored feedback and suggestions based on the students' specific performance, greatly enhancing learning efficiency and experience.

The integration of artificial intelligence technology is gradually changing traditional teaching and learning patterns in the educational field. It makes education more personalized, efficient, and engaging, bringing new interactive ways for both students and teachers. With the continuous evolution and maturation of artificial intelligence technology, its application prospects in the field of education will be even broader, opening up more possibilities and challenges for learners worldwide.

In the future, we can expect revolutionary changes brought by artificial intelligence in language learning applications, such as creating immersive learning environments through virtual reality technology or using big data analysis to further optimize learning paths and content. These advancements will not only greatly enrich the resources and methods of language learning but also provide learners with a more accurate and efficient learning experience.

## **2. Overview of Blended Learning Model in college English Teaching**

Blended Learning is an innovative educational approach that skillfully combines the direct interactivity of traditional face-to-face teaching with the flexibility and convenience of online learning. The core of this model lies in integrating the direct instruction of physical classrooms with the resources and tools of online platforms to enhance teaching effectiveness and enrich the learning experience for students. Through carefully designed course structures, teachers can utilize online platforms for sharing materials, interactive discussions, and assessment feedback, while conducting in-depth discussions, practical exercises, and personalized guidance in the physical classroom. The Blended Learning model not only caters to students with different learning styles but also promotes the development of students' self-directed learning abilities, ultimately aiming to improve the quality and efficiency of education.<sup>[3]</sup>

## ***2.1 The definition of blended learning model***

Blended learning, also known as hybrid learning, is an innovative educational approach that combines traditional face-to-face classroom teaching with modern online learning methods. This model aims to achieve more efficient and comprehensive teaching goals by skillfully integrating and utilizing various teaching resources and methods. In the blended learning model, teachers and students can interact through online platforms, while also engaging in face-to-face communication and discussion in physical classrooms. This model not only retains the interactivity and immediate feedback advantages of traditional classroom teaching, allowing students to receive direct guidance and assistance from teachers, but also fully utilizes the flexibility and personalized learning advantages of online learning, enabling students to choose learning content and timing according to their own learning pace and interests, thereby better meeting the needs of different learners. The implementation of the blended learning model has brought new vitality to the field of education, not only improving teaching efficiency but also promoting educational equity, making high-quality educational resources more widely available to every learner.<sup>[4]</sup>

## ***2.2 Characteristics of the Blended Learning Model***

**Flexibility:** The blended learning model allows students to study according to their own schedules and learning pace, offering greater flexibility in learning.

**Personalized Learning:** Through online learning platforms, students can choose learning content based on their interests and needs, achieving personalized learning.

**Interactivity:** Although the online learning component reduces face-to-face interaction, the blended learning model still emphasizes interaction between teachers and students, as well as among students, through online discussions, group collaboration, and other means.

**Resource Integration:** The blended learning model can integrate various teaching resources, such as videos, audio, animations, and simulated experiments, enriching the content and forms of teaching.

**Timely Feedback:** Through online learning platforms, teachers can promptly understand students' learning situations and provide targeted feedback and guidance.

## ***2.3 The theoretical basis of the blended teaching model***

**Behaviorist learning theory:** The online learning component emphasizes guiding students' learning behavior through external stimuli and feedback, which aligns with the fundamental views of behaviorist learning theory.<sup>[5]</sup>

**Cognitivist learning theory:** The blended teaching model focuses on the cognitive processes of students, providing rich learning resources through online learning platforms to help students construct a knowledge system.

**Constructivist learning theory:** The blended teaching model encourages students to actively explore and construct knowledge, promoting deep learning through collaborative learning and problem-solving methods.

**Sociocultural theory:** The blended teaching model emphasizes the importance of social interaction in the learning process, promoting knowledge sharing and collaborative learning among students through interactions both online and offline.

In summary, the blended learning model is an innovative educational approach that skillfully combines the direct communication advantages of traditional face-to-face teaching with the flexibility and convenience of online learning. This model creates a flexible and personalized learning environment for students, making the learning process more aligned with each student's unique needs and learning pace. At the same time, through the interactive features of online platforms, students can engage in real-time discussions and exchanges with teachers and other classmates, enhancing the interactivity of learning. This comprehensive teaching method not only helps to improve teaching effectiveness but also greatly enhances the student learning experience, making learning more efficient and enjoyable.

### **3. Blended teaching model supported by artificial intelligence**

The application of Artificial Intelligence (AI) technology in the blended teaching model of college English has brought about unprecedented revolutionary changes to the field of education. This blended teaching model cleverly combines the flexibility of online autonomous learning with the interactivity of offline classroom instruction, and the integration of AI technology further enhances the effectiveness of teaching and the learning experience, making the educational process more efficient and personalized.

Firstly, AI technology can achieve the design of personalized learning paths. By deeply analyzing students' learning data, AI systems can accurately identify each student's knowledge mastery, learning habits, and preferences, thereby customizing personalized learning plans for them. For example, AI can recommend English reading materials, listening practices, and vocabulary learning resources that are suitable for the students' levels, ensuring that students learn efficiently at their own pace, thus achieving the best learning outcomes.<sup>[6]</sup>

Secondly, the Natural Language Processing (NLP) technology in AI for language learning can provide immediate feedback and assessment. When students are practicing speaking or writing, the AI system can analyze the accuracy of their language, grammatical errors, and pronunciation issues in real-time, and offer targeted suggestions for improvement. This immediate feedback mechanism greatly improves learning efficiency, helps students correct mistakes in a timely manner, consolidate correct language knowledge, and thus continuously progress in the learning process.

In addition, AI can assist teachers in managing instruction. By intelligently analyzing students' learning data, teachers can understand students' learning progress and difficulties, thereby adjusting teaching strategies and content to meet the needs of different students. AI systems can also automatically grade objective questions and some subjective questions, reducing teachers' workload, allowing them to focus more on students' individual needs and provide in-depth guidance, thus improving teaching quality.

AI also supports the construction of virtual learning environments. Using Virtual Reality (VR) and Augmented Reality (AR) technologies, students can engage in immersive learning in simulated English environments, such as virtual travel, role-playing, and other interactive activities. These technologies not only increase the fun of learning but also enhance students' language application abilities, allowing them to use English more freely in real situations.

Lastly, AI promotes cross-cultural communication and collaborative learning. Through AI-supported online platforms, students can communicate with peers around the world, participating in international projects and discussions. This cross-cultural interaction not only improves students' practical English abilities but also cultivates their international perspective and cross-cultural communication skills, laying a solid foundation for their future performance on the international stage.

In summary, the application of AI in the blended teaching model of college English provides students with personalized, efficient, and interactive learning experiences, while also offering teachers powerful teaching support tools. The deep integration of technology and education together promotes the improvement of educational quality and points the way forward for the development of future education.

### **4. Case Analysis**

In today's educational field, the integration of artificial intelligence (AI) technology has brought revolutionary changes to traditional teaching models. College English teaching, as an important part of higher education, has particularly benefited from the AI-supported blended teaching model. The blended teaching model combines the advantages of online autonomous learning and offline classroom teaching, and the application of AI technology has further enhanced teaching efficiency and learning experience.

Taking our school as an example, we have implemented an AI-supported blended teaching model in our College English courses. During the implementation process, we first use AI to analyze students' learning data, including interaction records on online learning platforms, homework submissions, and test scores, to understand each student's learning progress and difficulties. Based on this data, the AI system can provide personalized learning suggestions and resource recommendations, thereby designing personalized learning paths.

In terms of classroom teaching, teachers use AI-assisted tools for real-time feedback and assessment. For instance, using the utalk AI version of speech recognition technology to assess students' oral expression abilities, and using natural language processing technology to analyze students' writing content, providing immediate corrections and suggestions for improvement. This immediate feedback mechanism has greatly increased students' enthusiasm for learning and participation.

Through AI-assisted tools, we found that some students were not very engaged in virtual classrooms. By analyzing the online learning behavior of these students, teachers found that they preferred visual learning materials. Therefore, in subsequent course designs, teachers added more video and image content, and combined with AI technology, provided more visual-assisted learning resources for these students. The results showed that the classroom engagement and learning effectiveness of these students had significantly improved.

In addition, AI technology has also helped us achieve more effective classroom management. Through intelligent attendance systems and learning behavior analysis, teachers can quickly identify students with low attendance rates and insufficient motivation, and intervene in a timely manner. At the same time, the Learning Through app and the U Campus AI version AI system can automatically record classroom interactions, helping teachers reflect on and improve teaching after class.

Overall, the implementation of an AI-supported blended teaching model has not only improved students' learning efficiency and effectiveness but also enhanced the quality of teaching for teachers. The successful implementation of this model has proven the great potential of artificial intelligence in the field of education, providing valuable reference experiences for other universities. With the continuous advancement of AI technology, the future blended teaching model for college English will become more intelligent and personalized, providing students with a richer and more efficient learning experience.

## **5. Challenges and strategies for response**

During the process of introducing new educational technologies or teaching methods into classrooms or educational systems, educators and stakeholders may face a series of challenges. These challenges may include issues with the adaptability of technology, the need for teacher training, differences in student acceptance, and unequal resource allocation. To effectively address these challenges, it is crucial to adopt appropriate strategies. Some common problems and their corresponding strategies are listed below:

First, technical Issues: Hardware failure: Equipment is damaged or outdated; Software compatibility: New systems are incompatible with existing software; Network issues: Unstable or slow internet connection; Data security: Privacy protection for students and teachers.

Second, teacher Training: Technical proficiency, Teachers may lack the necessary technical skills; Adaptation of teaching methods: Teachers may not be familiar with new teaching methods; Time and resources: Training may require additional time and resources.

Third, Student adaptability: Acceptance of new technology by students, Students may feel unfamiliar and uneasy with new technology; Learning curve: Students need time to adapt to new learning tools and methods; Diverse learning styles: Students have a variety of learning styles and needs, which may be challenging to meet for all students.

In response to the above question, we propose the following strategies for resolution:

Regular maintenance and upgrades: Regularly inspect all hardware equipment and perform necessary repairs or replacements in a timely manner. Ensure that all equipment meets current technical standards; Compatibility testing: Conduct extensive software compatibility testing before full implementation to ensure that all new and old systems can integrate seamlessly; Network upgrades: If network speed or stability is insufficient, consider upgrading network equipment or increasing bandwidth; Data security training: Provide data security and privacy protection training for teachers and students to ensure they understand how to safely use technology. Additionally, use encryption technologies and firewalls to protect data.

Continuous Training: Provide regular technical training and workshops to help teachers gradually improve their technical proficiency; Teaching Method Guidance: Provide detailed guidance manuals and case studies to help teachers understand and apply new teaching methods; Flexible Scheduling:

Offer a variety of training times and methods (such as online training, weekend seminars, etc.) to accommodate different teachers' schedules.

Step-by-step introduction: Gradually introduce new technologies, giving students time to adapt;  
Interactive training: Increase students' interest and acceptance of new technologies through interactive and gamified training methods;  
Personalized learning: Provide a variety of learning resources and tools to meet the different learning needs and styles of students.

## 6. Conclusions and Recommendations

The study on the exploration of the college English blended teaching model supported by artificial intelligence has found that this model can effectively improve students' learning efficiency and English proficiency. Through the design of intelligent teaching platforms and personalized learning paths, students can learn according to their own needs and progress, while teachers can monitor students' learning situations in real-time and provide targeted guidance. The application of artificial intelligence technology in areas such as speech recognition and natural language processing provides students with more opportunities for interaction and practice, enhancing the fun and practicality of learning. The following suggestions are made for the future college English teaching model:

Strengthen technology integration: Continue to deepen the integration of artificial intelligence technology with English teaching, develop more intelligent teaching tools and resources to meet the learning needs of different students.

Personalized learning paths: Use artificial intelligence to analyze students' learning data and create personalized learning plans for each student, ensuring that every student can learn at their own pace and difficulty level.

Strengthen the teacher's role: Teachers should transition from traditional knowledge transmitters to learning guides and mentors, using data provided by artificial intelligence to provide personalized guidance to students and help them solve learning problems.

Increase interactivity and practicality: Use artificial intelligence technology to increase interactive elements inside and outside the classroom, such as simulated dialogues, role-playing, etc., to improve students' practical language abilities.

Continuous assessment and feedback: Establish a continuous assessment system, use artificial intelligence technology to assess students' learning processes and outcomes, and provide timely feedback to help students adjust their learning strategies.

Interdisciplinary integration: Encourage interdisciplinary course design, combining English learning with professional courses to enhance students' professional English application abilities.

Through these measures, the college English blended teaching model can be further optimized, improving teaching effectiveness and laying a solid foundation for students' future learning and career development.

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