

Research on an AI-Based Personalized Teaching Model for College English Reading

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ABSTRACT

This paper aims to explore the value and pathways of artificial intelligence in addressing the problems inherent in traditional college English reading instruction. The study posits that the core advantages of AI lie in achieving scalable personalized teaching, providing immediate and process-based feedback, and expanding the breadth and depth of teaching content. Accordingly, the author constructs a comprehensive AI-empowered teaching model encompassing the "pre-class, in-class, and post-class" process. The conclusion points out that AI possesses great potential to reshape the teaching paradigm, but the key to its successful application depends on whether teachers can intelligently construct a trinity teaching community of "Teacher-AI-Student" and properly address challenges such as the transformation of the teacher's role.

KEYWORDS

Artificial intelligence; College English; Reading instruction; Teaching model; Teacher's role

1 Introduction

We are in the midst of a profound social transformation led by artificial intelligence, particularly driven by generative AI (AIGC) technology represented by large language models such as ChatGPT and DeepSeek, which is reshaping various industries with unprecedented force, and the field of education is no exception. AIGC is not merely a technical tool but also a cognitive partner capable of stimulating creativity, providing personalized support, and revolutionizing traditional workflows; its impact on educational philosophy, models, and methods is profound and extensive. Against this backdrop, examining the current state of college English reading instruction reveals increasingly prominent inherent structural contradictions. Firstly, there is the contradiction between unified instruction and personalized needs. Traditional classrooms employ uniform textbooks and pacing, making it difficult to accommodate students' vastly different English foundations, reading speeds, and cognitive styles, rendering truly tailored teaching hard to achieve. Secondly, there is the contradiction between static resources and dynamic interests. The content of paper textbooks or fixed electronic resources updates slowly, struggling to align with the rapidly changing interests and real-world hotspots of the Z generation, leading to insufficient learning motivation. Finally, there is the contradiction between summative evaluation and process-based guidance. Teachers find it challenging to provide immediate and detailed feedback for each student's reading process; tutoring often lags behind learning behaviors, and evaluation predominantly focuses on final exams or assignments, failing to effectively support students' continuous cognitive development. Faced with these dilemmas, this paper does not aim to present specific experimental teaching data but attempts a systematic theoretical exposition to answer a core question: How can AI, especially Large Language Models, become a key variable in solving the problems of college English reading instruction? The purpose of this paper is to outline the core value, practical paths, and prospects of AI-empowered reading instruction, providing teachers and researchers with referential reform ideas and a theoretical framework, thereby promoting a qualitative leap in college English reading instruction in the intelligent era.

2 The Core Empowering Values of AI

AI is not a simple patch to traditional teaching but a systematic reshaping of reading instruction in multiple dimensions.

2.1 Achieving Scalable Personalized Teaching

Traditional personalized teaching is difficult to implement on a large scale due to limitations in teacher resources and energy. By analyzing student learning data (such as historical exercise performance, vocabulary tests, self-selected interest tags), AI can construct a precise "learning profile" for each student. Based on this, AI can intelligently recommend reading materials that match their current level and are interest-oriented, achieving dynamic adjustment of text difficulty. For example, for students with a weak foundation, AI can provide simplified versions of texts and annotate core vocabulary; for students with spare capacity, it can push articles on the same theme with more profound viewpoints and complex backgrounds. This "personalized" reading path moves tailored teaching from an ideal to reality.

2.2 Providing Immediate, Process-based Feedback

Improving reading ability requires extensive practice and timely feedback. AI can act as a "never-tiring companion," providing services to students around the clock. During the reading process, students can ask AI questions at any time regarding any vocabulary, grammar, or syntactic obstacles and receive clear explanations. More importantly, for reading comprehension questions and writing outputs based on reading (such as summaries, reflections), AI can provide instant correction, not only pointing out grammatical errors but also offering constructive comments on logical structure and content completeness. This embedded, low-cost, immediate feedback within the learning process significantly shortens the "learning-verification-correction" cycle, effectively fostering the development of metacognitive abilities.

2.3 Expanding the Breadth and Depth of Teaching Content

The text generation capability of AIGC greatly breaks through the limitations of traditional teaching resources. Instructors can command AI to generate multiple supplementary reading materials based on the same core theme, from different cultural perspectives and employing different genre styles (e.g., news commentary, literary narrative, academic report), helping students construct a multidimensional knowledge network. Furthermore, AI can modernize adaptations of classic literary works or simulate different roles commenting on the same event. This not only stimulates students' reading interest but also provides rich material for comparative analysis and critical thinking, greatly expanding the intellectual depth of teaching.

2.4 Liberating Teachers to Focus on Higher-order Teaching

Freeing teachers from heavy, repetitive labor (such as batch grading basic assignments, searching for and organizing teaching materials) is another core value of AI. Teachers can thus invest the saved precious time and energy into more creative and humanistic higher-order teaching activities: meticulously designing project-based learning tasks, organizing and guiding in-depth classroom discussions and debates, paying attention to students' emotional needs and thinking dilemmas, and providing more inspiring speculative guidance. This means the focus of teachers' work shifts from "giving a fish" to "teaching how to fish," truly becoming the designer, guide, and motivator of students' learning journeys.

3 Constructing an "AI-Empowered" Reading Teaching Model

Based on the above core values, an AI-empowered teaching model can be constructed throughout the entire "pre-class, in-class, and post-class" process.

3.1 Pre-class: Personalized Preview and Diagnosis

Before starting a new unit, the AI system, based on the unit's theme and each student's learning profile, automatically provides two types of materials: first, the "core reading text" (with adapted difficulty) to ensure the achievement of basic teaching objectives, and second, a "personalized extended reading package" for broadening horizons. AI automatically analyzes the core reading text, generates key vocabulary lists, complex sentence analyses, and background knowledge introductions that require previewing. Students can interact with AI to clear language obstacles in advance, preparing for in-depth exploration in class. Teachers, through the preview report generated by AI, can understand the common difficulties of the class, thus precisely designing the focal points of classroom teaching.

Taking the text *Why They Excel in 21st Century College English Book 2* as an example, in the pre-class preparation stage, AI does not give the same background materials to all students but performs precise resource matching based on built-in learning analytics algorithms: for instance, recommending extended reading on "the influence of the five core ethics of Confucianism on East Asian social structure" for students interested in social sciences; providing popular science articles on "Dweck's classic theory of 'growth mindset' vs. 'fixed mindset'" for students interested in psychology. Simultaneously, AI actively conducts in-depth analysis of the text, automatically generating an interactive, gamified vocabulary and complex sentence learning module. In this module, students can not only instantly obtain information on definitions, collocations, and pronunciation for vocabulary like "imbue with" and "constitute" by clicking but also complete structural decomposition exercises of complex sentences through interactive methods like dragging and sorting, thereby basically clearing language obstacles before the class. Finally, the teacher deploys an AI-driven pre-class diagnostic Q&A, with questions such as "What do you think is the primary factor for success?" AI analyzes the students' responses within seconds and generates a visual panoramic report, clearly marking common misconceptions and individual differences in understanding, providing precise "targeting guidance" for the teacher's classroom instruction.

3.2 In-class: Interactive and In-depth Exploration

During group discussions, independent reading, or project exploration sessions, when students encounter knowledge gaps, they can immediately ask the classroom AI assistant via their terminal for relevant concept explanations, cultural

background, or example sentences, ensuring the fluency of the exploration process and preventing interruptions due to individual obstacles. Teachers can use AI to quickly generate diverse classroom tasks. For instance, reading comprehension questions for specific paragraphs, debate topics for pros and cons, or role-playing scenario cards. A more challenging task is to have students analyze how answers generated by AI on a certain question differ from their own or others', and evaluate their merits, which directly trains students' critical thinking and information discrimination skills.

Again, using the article *Why They Excel* as an example, at the beginning of the class, the teacher does not directly explain the text but displays a dynamic word cloud generated by AI based on preview data, where words like "hard work," "family pressure," "cultural values" are prominently highlighted, using this as an "ice-breaking" tool to quickly stimulate student resonance and introduce the theme. Immediately after, the class enters the core collaborative exploration session. Students work in groups with the task of collectively drawing a multidimensional mind map explaining the "causal chain of Asian students' exceptional performance" within a time limit. During this process, the classroom AI assistant acts as an ever-present research partner. When students encounter confusion about cultural concepts in the text like "Confucianism" or "Protestant philosophy," they can pause at any time, ask immediate questions, and receive concise background explanations from AI, ensuring the fluency and depth of group discussion are not hindered by individual knowledge gaps. After students have fully grasped the textual information, the teacher utilizes AI's generative capability to quickly create a high-level critical thinking debate arena, for instance, posing the motion: "Is the supremacy of hard work the golden key to success, or the culprit that stifles creativity?" In this session, students must refer back to the text, select evidence, organize logic, and engage in clashing viewpoints. The teacher's responsibility is no longer to provide standard answers but to constantly guide students' thinking deeper through skillful questioning (e.g., "As a Western observer, does the author's perspective have a cultural filter?"), cultivating their critical thinking.

3.3 Post-class: Precision Consolidation and Creation

For homework such as summaries and essays submitted after class, AI conducts the first round of correction, focusing on language accuracy, structural clarity, and content coverage, providing revision suggestions. The teacher, based on this, focuses on the innovation of student viewpoints, the rigor of logic, and the depth of thought, providing more humanistic and thought-provoking "teacher comments," achieving human-computer collaborative evaluation. Students are encouraged to use AI as a scaffold for creative production. For example, instructing AI to continue a story's ending, retell the story from a supporting character's perspective, or translate the text into Chinese and then conduct back-translation for comparison. Such activities transform passively received reading input into active, enjoyable creative output, deepening the understanding of the text and exercising comprehensive language application skills.

For the text *Why They Excel*, a reflective writing task can be designed, requiring students to discuss the manifestation of the three success factors mentioned in the text in their personal learning lives, based on their own experiences. After submitting the first draft, students first enter the "AI Primary Review" stage: AI acts as a tireless, objective, and fair "first-instance judge," performing a multi-dimensional diagnosis of the essay within seconds, not only accurately marking all grammatical errors and spelling mistakes but also providing specific revision suggestions regarding vocabulary richness, sentence variety, coherence between paragraphs, and even whether the argument closely follows the theme. This greatly liberates teachers from tedious basic grading. Subsequently, the teacher appears as the "final judge," focusing entirely on areas beyond AI's reach: the originality and depth of student viewpoints, the uniqueness and persuasiveness of examples, and the emotion and speculative brilliance behind the words, providing personalized comments with humanistic care and intellectual inspiration. Furthermore, to stimulate student creativity, the plan also offers AIGC-based extension tasks, for example, instructing students to command AI to simulate the tone of an American educator and write a commentary on the "value of effort," then requiring students to analyze the similarities, differences, and relative merits between the AI-generated text and the viewpoints in the lesson text. This task not only deepens the understanding of the text but also cultivates the information discrimination and critical scrutiny skills crucial in the AI era.

4 Challenges and Strategies

While embracing the dividends of technology, we must soberly examine and address some challenges.

4.1 Reshaping the Teacher's Role and Enhancing Competence

The greatest challenge is not the technology itself, but the transformation of the teacher's role. If teachers cannot transition from being the dominant figure to designers and guides, the effectiveness of AI will be greatly diminished. It is essential to strengthen training on teachers' "AI literacy," enabling them to master the skills of collaborating with AI in lesson preparation, teaching, and evaluation. Focus should be on cultivating their ability to discern the quality of AI-generated content, design human-computer interactive learning activities, and stimulate students' higher-order thinking in blended environments.

4.2 Academic Integrity and Reform of the Evaluation System

Students might misuse AI to write assignments or complete reading tasks, leading to mental laziness and academic misconduct. The fundamental solution lies in reforming the evaluation system. Reduce the weight of scores for rote memorization and mechanical writing, and increase the proportion of assessment methods such as in-class immediate performance, oral presentations, group project outcomes, and process-based learning portfolios. Design open-ended, inquiry-based tasks with no standard answers, making it difficult for AI to directly substitute, thereby forcing students to engage in deep thinking.

4.3 Balancing Technological Dependence and Emotional Interaction

Over-reliance on cold machine interaction may weaken the valuable emotional connection between teachers and students, and among students themselves, as well as the cultivation of empathy, which is an indispensable part of language learning. The instrumental attribute of AI must be clearly defined. The core domain of the classroom should be reserved for the collision of emotions and wisdom unique to humans. Teachers should consciously schedule technical tasks outside class, ensuring classroom time is used for high-quality discussions, collaboration, and presentations, creating a warm, supportive learning atmosphere, letting technology serve people, not the other way around.

5 Conclusion

In conclusion, artificial intelligence has brought about a profound paradigm revolution to college English reading instruction. Its core value lies in systematically addressing the long-standing shortcomings of traditional teaching in personalization, feedback timeliness, and resource richness through technological means. The comprehensive "pre-class, in-class, post-class" empowerment model constructed in this paper outlines a macro blueprint for integrating AI into teaching practice and highlights the irreplaceable role of the teacher as the "leader of human-computer collaboration" within it. The core viewpoint of this paper is that future teaching success will not depend on the adoption of the most advanced AI technology, but on whether teachers can intelligently harness technology, transforming it into effective educational force. Constructing a new, student-development-centered, teacher-led, AI-supported "trinity" teaching community is the inevitable choice for responding to the challenges of the times. Looking ahead, with the continuous breakthroughs in AI technology in areas such as affective computing and multimodal interaction (e. g., reading comprehension integrating visual and auditory elements), English reading instruction will possess even broader possibilities. We can anticipate more immersive reading environments and AI learning companions that better understand students' emotional states and provide emotional support. However, regardless of how technology evolves, the essence of education—cultivating well-rounded individuals with independent personality, critical spirit, and humanistic care—will always be the Polaris guiding our way forward.

About the Author

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