

Research on the Challenges and Resolution Pathways of College Public English Classroom Teaching in the Context of Artificial Intelligence

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Abstract: Integrating artificial intelligence (AI) into college English classroom teaching has introduced unprecedented opportunities while presenting significant challenges for public English education. The rapid advancement of AI technologies is reshaping teaching methodologies and fundamentally altering the educational ecosystem of college public English instruction. This study adopts a qualitative approach, conducting interviews with four college English teachers to examine the key challenges associated with AI-driven public English classrooms. The analysis focuses on five critical dimensions of English teaching: listening, speaking, reading, writing, and translation. By identifying these challenges and proposing practical resolution pathways, this research offers valuable theoretical insights and actionable strategies for optimizing the application of AI in college English teaching.

Keywords: College Public English Classroom Teaching; Artificial Intelligence; Challenges; Resolution Pathways

1. Introduction

In recent years, the rapid advancement of artificial intelligence (AI) has profoundly reshaped traditional teaching and learning paradigms. Within the realm of college public English classrooms, AI tools have unlocked unprecedented opportunities for personalized, efficient, and interactive teaching practices. However, alongside these advancements, the integration of AI has introduced a range of unique challenges. These shifts necessitate that educators reconsider pedagogical strategies, refine teaching methodologies, and address the complex challenges arising from the incorporation of AI technologies into instructional settings. This study seeks to

examine the key challenges faced by educators in implementing AI technologies within college English teaching and to identify practical and effective pathways for overcoming these obstacles. The ultimate objective is to ensure that AI technologies act as enablers rather than barriers to teaching and learning. By addressing these issues, this research not only enriches the theoretical understanding of AI's role in language education but also provides actionable insights for improving the efficacy of college public English teaching in AI-augmented contexts.

2. Literature Review

Current literature explores the application of AI in language education from multiple perspectives, including writing assistance, intercultural communication, translation teaching, instructional framework design, and academic writing. These studies highlight the potential of AI tools to enhance the quality of language teaching and learning outcomes, while also addressing associated challenges and limitations. The main research areas can be categorized as follows:

First, the Application of AI in English Writing and Teaching. Park^[1] examined the differences between AI-based grammar checking tools and human raters in assessing the writing of English as a Foreign Language (EFL) students. The study revealed that AI grammar checkers excel in identifying linguistic errors and providing instant feedback but remain limited in their ability to assess text coherence and complex semantic nuances compared to human raters. Similarly, Gayed et al.^[2] focused on the impact of AI writing assistants on English learners, finding that such tools not only improved students' writing accuracy but also boosted their confidence in expressing complex language structures. However, the study also cautioned that excessive reliance on

AI tools might undermine learners' autonomy and independent learning abilities. Second, the Potential of AI in Intercultural Communication and Translation Teaching Khasawneh ^[3] and Karakas^[4] analyzed the role of AI in intercultural communication, particularly in facilitating language education and promoting cross-cultural understanding through translation technologies. Khasawneh emphasized the real-time efficiency and convenience of AI translation, while Karakas further argued that AI could assist students in grasping the subtleties of cultural contexts in language education. Third, the Broader Impact of AI on Education. Yang^[5] explores the integration of artificial intelligence in translation teaching, highlighting its impact on teaching methods, student learning outcomes, and future educational innovations. Pedro et al.^[6] discussed the opportunities and challenges posed by AI in education, including its ability to enhance learning outcomes and support teachers' instructional practices. They also warned of potential issues related to educational equity stemming from AI adoption. Llorca and Solorzano ^[7] highlighted how AI has transformed teaching methodologies in English education, particularly through the use of intelligent conversational systems to promote interactivity and personalized learning. Fourth, the Integration of AI Tools into Foreign Language Learning and Instructional Framework Design. Almutairi et al.^[8] and Kovalenko and Baranivska ^[9] investigated frameworks for integrating AI technologies into English teaching. Almutairi underscored the necessity of combining human intelligence with AI in language learning, while Kovalenko and Baranivska emphasized both the potential and challenges

of AI tools in enhancing teaching efficiency and learning outcomes. Francis and Subha ^[10] proposed a conceptual framework for the application of AI in English education, analyzing current trends and future directions, particularly the role of technology in improving learner motivation and academic performance. Finally, AI Integration in College English Classrooms. Özdemir^[11] further analyzed how AI technologies enhance learning engagement and instructional innovation in university classrooms, while also cautioning against the potential negative impact of over-reliance on technology on the role of educators.

3. Research Design

This study employs a qualitative interview method to investigate the perspectives of four college English teachers to address the following key questions:

- 1) What are the primary challenges faced by college public English classrooms in the context of artificial intelligence (AI)?
- 2) How can these challenges be effectively addressed, and what are the most suitable pathways for their resolution?

This study focuses on four college public English teachers from different age groups, representing diverse teaching experiences. Their perspectives reflect a broad range of challenges and coping strategies encountered in actual teaching practice. The selection of participants encompasses variations in gender, age, teaching experience, and professional titles, ensuring the diversity of data sources and the generalizability of the research findings. The basic information of the participants is as follows:

Table 1. Information on the Four Research Subjects

Participant	Gender	Age	Teaching Years	Professional Title
Ms. Li	Female	28	5	Lecturer
Mr. Wang	Male	35	10	Associate Instructor
Ms. Chen	Female	48	15	Associate Instructor
Mr. Liu	Male	52	20	Professor

identified challenges and potential solutions.

4. Case Presentation and Analysis

The interview content in this study is structured around the five core components of college English teaching—listening, speaking, reading, writing, and translation. This framework is designed to analyze the research questions and provide insights into the

4.1 Listening and Speaking Instruction

This section focuses on the challenges and resolution pathways associated with using AI technologies in listening and speaking classroom teaching. The interview content addresses the following questions: 1) Have

you used artificial intelligence (AI) tools in your listening and speaking instruction? 2) What challenges have you encountered when using AI technologies in listening and speaking teaching, and how did you address these challenges? The findings are analyzed as follows:

Li occasionally uses intelligent listening training platforms in her listening classes and incorporates AI-based speaking assessment tools for dialogue practice in her speaking lessons. While she acknowledges that these tools have improved learning outcomes to some extent, she also points out challenges, such as the limited accuracy of AI in recognizing pronunciation and intonation, which occasionally results in erroneous feedback. She noted, “Some students talk to their phones and ignore classroom interaction.” To address these issues, Ms. Li corrects and explains AI-generated feedback during class to ensure students’ accurate understanding. Additionally, she adopts task-based teaching methods to enhance student interaction during speaking practice through activities such as group discussions and role-playing, thereby reducing over-reliance on AI tools.

Wang primarily relies on traditional audio materials for listening instruction but uses AI-powered speaking practice platforms to help students improve pronunciation in speaking classes. He believes that AI technologies are difficult to seamlessly integrate with traditional teaching methods. To address this, Mr. Wang employs AI tools for post-class assignments while prioritizing interactive teaching methods during class. This approach, he explains, helps boost students’ confidence and engagement in the classroom.

Chen occasionally uses AI tools to assist with listening instruction but mainly relies on traditional methods for speaking classes, such as group simulations and individual presentations. She observed that “AI tools are mechanical and lack emotion, making it difficult to address students’ emotional needs and cultural differences.” To mitigate these limitations, she designs task-driven activities for speaking classes, including teacher-student dialogues, group discussions, and post-class rehearsals. These activities address issues that AI tools struggle to handle and foster a more human-centered learning environment.

Liu integrates AI speech recognition

technology in listening training and uses AI-based speaking assessment tools to enhance pronunciation accuracy and dialogue practice in speaking classes. He remarked, “AI tools cannot provide instant corrections during student conversations, so when students make mistakes, they are often unaware of them.” Additionally, he noted that some students over-rely on AI, showing little initiative to express themselves. He also pointed out that the content provided by AI tools is not always aligned with the teaching syllabus. To address these issues, Mr. Liu designs differentiated tasks tailored to students’ proficiency levels and combines them with AI tools for targeted training, ensuring a more effective and personalized learning experience.

4.2 Reading Instruction

This section focuses on the challenges and resolution pathways associated with using AI technologies in reading instruction. The interview content addresses the following questions: 1) Have you utilized artificial intelligence (AI) tools in your reading instruction? 2) What challenges have you encountered in using AI tools for reading instruction, and how have you resolved them? The findings are analyzed as follows:

Li stated, “I do not encourage students to use AI tools for reading assistance during class, as it hinders their reading skill development.” Instead, she permits students to explore intelligent annotation tools outside the classroom. Li noted that these tools enable students to quickly identify the main ideas of texts and access links to relevant background knowledge. However, students often face challenges with deeper comprehension, including difficulties in grasping the logical structure, authorial tone, and central arguments of a text. To address these limitations, Li requires students to reorganize or paraphrase the content in their own words after reading and to participate in group discussions to uncover the deeper meanings of texts. Furthermore, she curates reading materials that align with students’ academic disciplines and complements them with AI-recommended resources to enhance their reading interest and foster independent critical thinking.

Wang primarily relies on AI translation tools to assist students in understanding unfamiliar

vocabulary and complex sentences. He also employs AI-generated reading comprehension questions to evaluate students' understanding of texts. However, he observed that students often depend excessively on AI translations, which hampers the development of their language analysis skills. Many students fail to engage deeply with the text, overlooking core ideas and logical structures, and some rely on AI-generated answers instead of actively working through the reading process themselves. To mitigate these issues, Wang designs open-ended discussion questions that encourage students to share personal insights on the text and analyze linguistic details and cultural nuances. He also establishes clear reading objectives before each session—such as identifying the author's stance or the main argument—to guide students toward deeper text analysis and foster independent critical thinking.

Chen experimented with using AI tools to evaluate students' reflections on reading assignments. She found that AI tools lack the ability to effectively analyze emotional attitudes and cultural contexts, thereby falling short of supporting comprehensive text comprehension. Additionally, AI feedback on reflections often disregards creative language expression, resulting in overly simplistic evaluations. Some students, overly dependent on AI-generated suggestions and assessments, neglect in-depth textual analysis and self-directed learning. To address these issues, Chen incorporates in-class contextual demonstrations and cultural background explanations to deepen students' understanding of textual meanings and emotional expressions. She also organizes activities such as role-playing, reading debates, and reading contests to enhance student engagement, increase interest in reading, and develop critical thinking skills.

Liu uses grammar analysis tools to help students identify the structural framework of texts and employs intelligent Q&A systems to address students' reading queries. However, he noted that students often focus on the localized information provided by AI tools while neglecting the overarching logic and themes of the text. Additionally, some students rely on AI Q&A systems without attempting to independently reflect on and resolve their reading challenges. To counteract these

tendencies, Liu incorporates tools such as mind mapping to guide students in organizing the overall structure of texts and training them to grasp themes and core logic. He also integrates cross-cultural content into reading lessons to help students understand contextual and cultural significance. By posing open-ended questions, Liu encourages students to critically evaluate AI-generated content, fostering independent thought and critical analysis.

4.3 Writing Instruction

This section explores the challenges and resolution pathways associated with integrating AI tools into writing instruction. The interview questions focused on the following: 1) Have you incorporated AI tools into writing instruction? 2) What challenges have you encountered when using AI tools for writing instruction, and how have you addressed them? The findings are analyzed as follows:

Li incorporates AI-assisted tools, such as intelligent grammar-checking software, into her writing instruction to help students improve grammar, refine sentence structures, and provide model references through AI-generated writing samples. She observed that these AI-generated examples offer basic writing templates for lower-level students. However, she noted that AI-produced examples are often overly formulaic, lacking logical depth and creativity, which can lead to students producing writings with evident imitation. Moreover, some students tend to rely on AI-generated content directly, neglecting independent brainstorming and writing practice. To address these issues, Li requires students to complete their initial drafts independently before using AI tools for grammar optimization. She then encourages students to critically evaluate the AI-provided suggestions and selectively apply appropriate modifications. To foster originality and creativity, Li designs open-ended writing assignments, such as debate essays and personal statements, emphasizing logical structure, innovation, and originality. She also incorporates creative writing tasks and combines AI feedback on surface-level issues with her own in-depth assessments of logic and structure to enhance student's writing abilities.

Wang utilizes AI-assisted grading tools to provide students with writing scores and detailed revision suggestions. Additionally, he encourages students to use AI-generated content libraries to expand their writing materials. While he acknowledges that AI tools enhance efficiency by quickly offering scoring and detailed feedback, he identified certain limitations. For instance, AI grading systems often exhibit biases when evaluating complex logic, resulting in inaccurate scores and student dissatisfaction with feedback. Furthermore, AI-recommended materials and sentence patterns tend to be repetitive, leading to homogeneity in students' writings and a lack of personalized expression. Over-reliance on AI's efficiency also causes students to overlook the importance of reflection and revision during the writing process. To address these challenges, Wang adjusts and supplements AI-generated scores, placing greater emphasis on evaluating students' logical development and unique expressions. He designs multi-stage writing tasks, such as drafting, revising, and producing final submissions, to assess students' progress and encourage independent thinking.

Chen employs AI text analysis tools to help students refine writing details and uses AI-assisted grading systems for preliminary evaluations of their writing proficiency. While AI tools provide useful templates and sentence patterns, Chen observed that they struggle to offer targeted suggestions on argumentation logic and paragraph transitions. This limitation prevents students from engaging in deeper critical thinking and hinders opportunities for personalized expression. To address this, Chen integrates classroom instruction and case analysis to explicitly teach methods for structuring paragraphs and developing logical arguments. She combines AI-recommended materials with open-ended questions to guide students toward deeper engagement with content and the expansion of their writing.

Liu uses AI writing analysis tools as a supplementary aid in his teaching. Before class, he leverages AI tools to organize key sentence patterns for lesson preparation. During class, he allows students to use AI tools for text polishing and employs AI-generated writing models to help students analyze the structure and linguistic features of advanced writing samples. However, Liu

found that AI tools are limited in providing detailed feedback on complex compositions. To address this, he designs personalized writing tasks tailored to students' proficiency levels, encouraging advanced students to focus on logic and depth while supporting less proficient students in mastering foundational expression. After students use AI tools for text refinement, Liu requires them to evaluate the quality of AI suggestions and propose further optimization plans, fostering their independent thinking skills. For issues that AI tools cannot address, such as logical coherence, Liu conducts in-class case analysis and organizes writing workshops. These sessions include detailed explanations of typical examples to enhance students' overall writing competencies.

4.4 Translation Instruction

This section explores the challenges and resolution pathways in the use of artificial intelligence (AI) translation tools in translation instruction. The interview questions focused on the following: 1) Have you incorporated AI translation tools into your translation teaching? 2) What challenges do you think AI tools present in translation teaching, and how have you addressed them? The main cases are presented below:

Li incorporates AI translation tools such as Google Translate into her teaching, primarily to facilitate comparative analysis of translation quality. She noted that students gained a clearer understanding of the differences between literal and free translation, particularly when dealing with simple sentences and phrases, where AI tools demonstrate high efficiency. By analyzing errors in AI-generated translations, students gradually enhanced their sensitivity to linguistic details. However, she observed that AI tools struggle with cultural-loaded terms and emotional expressions, often leading to mistranslations or inaccuracies. The translations generated by AI are typically mechanistic, lacking flexibility and diversity in style and tone. Some students tend to rely excessively on AI tools for assignments, neglecting the development of translation skills and language competence. To address these challenges, Li integrates tasks involving the translation of literary works, advertisements, and culturally nuanced

vocabulary into her teaching design. She emphasizes the importance of replicating linguistic style and cultural context. Students are required to complete manual translations first, followed by comparative analyses using AI tools, training their critical thinking and translation skills.

Wang uses AI translation tools in his classroom primarily for segment-based translation exercises and terminology-matching tasks. For example, in teaching Academic English, he utilizes AI-generated translations to help students quickly master the application of specialized terminology. While students can grasp core professional terms within a short period, Wang found that AI tools often produce inconsistent terminology across specialized fields, leading to varying translation quality. Furthermore, AI translation tools have limited contextual understanding for longer texts, resulting in incoherent segmented translations. To address these issues, Wang requires students to integrate and refine AI-generated translations based on contextual coherence. In his lesson design, he includes problem analysis and revision strategies to enhance students' independent translation abilities, encouraging them to make necessary adjustments and polish the segmented results provided by AI tools.

Chen teaches students from professional fields such as medicine and law, where she leverages AI translation tools for translating texts in these specialized domains. She observed that AI tools significantly improve efficiency, yet they tend to favor literal translation methods, failing to capture the deeper meanings and nuanced contexts of the texts. In some professional areas, AI-generated translations contain elementary grammatical errors, hindering students' understanding of high-quality translation standards. To address this, Chen emphasizes translation strategies such as free translation, domestication, and foreignization through classroom instruction. She guides students to make necessary adjustments and refinements after using AI tools. By organizing analyses of common errors in AI-generated translations, she encourages students to explore the underlying causes of these errors and propose solutions. She also conducts specialized workshops to help students utilize AI tools more effectively

while integrating professional translation techniques.

5. Challenges and Resolution Pathways of AI in College Public English Classrooms

The integration of artificial intelligence into college public English teaching has introduced unprecedented opportunities while also presenting significant challenges. From serving as a language learning aid to fostering innovation in teaching methodologies, AI technology is reshaping traditional pedagogical approaches. However, its application is not without difficulties. Teachers face a range of issues, such as over-reliance on technology, the potential weakening of students' language skills, and the neglect of cultural and contextual nuances. Therefore, it is imperative to explore effective strategies to address these challenges. The following sections analyze the challenges posed by AI in college public English classrooms and propose corresponding resolution pathways.

5.1 Resolution Pathways in Listening and Speaking Instruction

Based on the analysis of the above data, all four teachers recognized the significant potential of AI technology in listening and speaking instruction, such as boosting students' confidence in oral expression and providing personalized listening feedback. However, several challenges were identified: Teacher Competency Issues: Teachers need time to learn and master new tools, and some feel overwhelmed by the added workload, resisting the acquisition of new knowledge and skills. Over-reliance on AI Tools by Students: In listening and speaking instruction, students tend to overly depend on AI feedback, which hinders the development of critical thinking, reduces independent reasoning, and diminishes classroom engagement. Resource Effectiveness Issues: The content and functionality of AI tools do not fully align with specific teaching needs or curricular objectives. Evaluation Limitations: In oral practice, AI tools often struggle to provide efficient, nuanced feedback and evaluation on learners' performance. To address these challenges, this study proposes the following recommendations: Teachers should cultivate their ability to update their knowledge continually, keeping pace with advancements

in AI. They should actively participate in various online and offline training programs to enhance their proficiency with AI tools. Teachers should design diverse classroom activities, flexibly integrating AI tools with traditional teaching methods to increase classroom interactivity. Institutions should encourage partnerships with technology companies to co-develop AI resources better suited to pedagogical needs, thereby improving the accuracy and reliability of AI tools.

5.2 Resolution Pathways in Reading Instruction

All four teachers acknowledged that the application of AI in reading instruction provides students with efficient tools, such as vocabulary comprehension, keyword extraction, article summarization, and grammar analysis. However, several challenges persist: Lack of Deep Reading Analysis: AI primarily focuses on shallow information extraction, such as vocabulary and short phrases, but struggles to help students grasp the logical structure and core ideas of texts or foster higher-order thinking skills. Insufficient Contextual Representation: AI tools are limited in effectively presenting the authentic context of texts. Strong Student Dependency: Students tend to overly rely on AI-generated content, neglecting independent analysis, critical thinking, and cultural or emotional interpretations. To overcome these challenges, this study recommends that teachers integrate AI technology with textual analysis. While AI offers efficient surface-level reading support, teachers should guide students in deep text interpretation, cultivating their critical thinking and active learning skills. Additionally, incorporating cross-cultural and emotional education into reading tasks can enhance students' comprehension and broaden their perspectives. Strengthening task design in reading instruction will help develop students' ability to evaluate and construct meaning independently.

5.3 Resolution Pathways in Writing Instruction

The application of AI tools in writing instruction provides teachers with valuable pre-class language assistance and resources

while improving students' writing efficiency. However, AI falls short in offering deep logical guidance, fostering creativity, and delivering personalized feedback. The four teachers observed that AI-generated content and feedback primarily focus on superficial aspects, lacking depth and originality. Moreover, some students overly depend on AI tools, neglecting independent writing practice. This study suggests the following strategies: integrating AI tools with in-depth teacher guidance, emphasizing training in logic and structural organization, and improving students' proficiency with AI tools to optimize teaching outcomes.

5.4 Resolution Pathways in Translation Instruction

The four teachers agreed that AI tools significantly improve translation speed and classroom efficiency, making them effective supplementary teaching tools. However, they also identified several challenges in translation instruction: AI tools struggle with translating cultural contexts and nuances, often resulting in translation errors or inaccuracies. The ability of AI tools to handle complex sentences and structures is limited, requiring manual refinement. Students' over-reliance on AI translation tools may weaken their translation skills and critical thinking abilities. AI tools have altered traditional translation teaching models, necessitating adaptive teaching strategies. To address these issues, teachers should integrate AI tools into instruction by supplementing them with contextual analysis and logical adjustment training. Students should be encouraged to critically evaluate AI-generated translations to enhance their independent skills. Targeted exercises should be designed to address the limitations of AI tools, fostering students' comprehensive mastery of translation techniques. Teachers should also adopt flexible teaching strategies to accommodate the evolving landscape of AI-enhanced translation models.

6. Conclusion

In the context of rapid advancements in artificial intelligence, college public English classrooms face new opportunities and challenges. This study employed qualitative interviews with four university English teachers to examine the primary challenges in

listening, speaking, reading, writing, and translation instruction under the influence of AI. It also proposed feasible resolution pathways. Furthermore, integrating AI technology with innovative classroom designs promotes the deep integration of traditional teaching methods with modern technology, providing fresh perspectives for the reform of public English teaching in higher education. In the future, further efforts are needed to strengthen the localized development of AI technology and build robust technical support systems for teachers. These measures will ensure the applicability and sustainability of AI in teaching practices, ultimately enhancing the overall quality of college English education.

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