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Generative AI in College English Listening Instruction: Exploring Teacher Experiences and Pedagogical Integration

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Abstract: This study investigates the integration of generative AI into college English listening instruction, emphasizing teachers' experiences, perceptions, and challenges. Through semi-structured interviews and classroom observations, the study examines how AI-driven tools enhance listening comprehension by offering personalized learning experiences and adaptive feedback. Findings indicate that generative AI supports differentiated instruction, fosters student engagement, and provides tailored practice opportunities. However, challenges such as inadequate training and curriculum misalignment limit effective integration. This research contributes to the growing body of literature on AI-assisted language learning, providing practical insights for educators and policymakers to improve listening pedagogy through AI technologies.

Keywords: Generative AI, AI-assisted language learning, listening instruction, teacher experiences, curriculum integration

Introduction

The rapid advancement of AI technologies has transformed various sectors, including education, where its potential to enhance learning outcomes and create personalized experiences has drawn significant interest. Generative AI, capable of generating content based on learned patterns, shows promise in personalizing educational content and creating interactive learning environments.[5] In language learning, AI-driven applications are increasingly used to provide adaptive learning pathways, real-time feedback, and customized materials.

In English listening instruction, generative AI offers opportunities to simulate realistic listening scenarios, deliver targeted exercises, and adapt content to learners' proficiency levels. These features are crucial for improving listening comprehension, particularly for college students facing challenges in academic communication. Despite AI's potential, its integration into college English pedagogy remains underexplored, especially in listening instruction. Traditional listening instruction relies heavily on static materials and teacher-led activities, lacking personalized feedback and adaptive learning paths to meet diverse learner needs.

This study addresses these gaps by exploring how generative AI can be integrated into college English listening instruction. Specifically, it focuses on teachers' experiences, perceptions, and challenges when using AI tools. By investigating teachers' use of AI technologies and the obstacles they face, this research provides practical insights into AI-enhanced listening pedagogy. Furthermore, it highlights the need for teacher training and support in using AI tools effectively, ensuring alignment with pedagogical goals and enhancing student learning.

The findings contribute to the literature on AI-assisted language learning, particularly in listening instruction. By examining the real-world application of generative AI in college English classes, this research underscores the benefits of personalized adaptive learning and identifies areas for further support. These insights are valuable for educators,

curriculum developers, and policymakers aiming to leverage AI to enhance listening pedagogy.

1. Literature review

In recent years, the integration of artificial intelligence (AI) into educational practices has gained significant attention, particularly in language learning. AI-assisted language learning (AI-ALL) demonstrates potential in providing personalized experiences, adaptive pathways, and real-time feedback, enhancing student engagement and outcomes.[4] In listening instruction, AI applications generate customized exercises and simulate real-life interactions, improving comprehension and motivation.[1]

AI integration in college English listening shows promise in offering adaptive exercises tailored to proficiency levels. However, effective use depends on teacher preparedness and aligning AI tools with curricula[2]. Studies have shown that the most effective use of AI occurs when it is embedded within broader pedagogical frameworks, rather than used in isolation, as noted by Yu and Guo. Aligning AI-generated content with curricular goals remains a challenge, requiring educators to adapt materials to meet specific learning outcomes.

Given these challenges and opportunities, this study aims to contribute to the understanding of generative AI integration in college English listening instruction. By focusing on teachers' experiences and challenges, this research offers insights into the practical implications of AI in listening pedagogy. The findings will help inform strategies for curriculum developers, educators, and policymakers to enhance AI-assisted listening instruction in higher education.

2. Research methodology

This qualitative study explores college English teachers' experiences with generative AI in listening pedagogy, allowing in-depth insights into their perceptions and challenges. The participants were selected using purposive sampling to ensure relevant experience with generative AI in listening instruction. Twenty-five college English teachers with varied AI experience participated. This diverse sample captures a range of perspectives on the challenges and opportunities of integrating AI into listening instruction.

Data were collected through semi-structured interviews and classroom observations to explore teachers' experiences and AI's impact on learning. Thematic analysis identified recurring themes through open, axial, and selective coding.To ensure reliability, multiple researchers independently coded a subset of data before collaborating on the final coding framework.

3. Data collection and findings

The data collection process involved semi-structured interviews and classroom observations to understand how generative AI is being integrated into college English listening instruction. Interviews provided insights into teachers' perceptions, experiences, and challenges, while classroom observations highlighted AI tool usage and student responses.

Teachers found generative AI more effective than traditional methods for addressing individual learning needs, particularly through immediate feedback. AI tools significantly enhanced student motivation and participation, especially for those struggling with listening tasks. These reflections suggest that AI tools enhance both learning outcomes and students' attitudes toward language learning.

Classroom observations provided evidence of the impact of AI integration. Where AI tools were used effectively, students were more engaged and frequently interacted with both the technology and each other. Observations showed that students demonstrated increased autonomy, often pausing, replaying, and interacting with content based on their needs. However, discrepancies in teachers' proficiency with AI integration were also noted. Some teachers seamlessly incorporated AI, while others struggled to align AI materials with the curriculum, leading to varying student engagement levels.

A key challenge identified was aligning AI-generated content with curricular objectives. While AI tools offered flexibility, teachers found that generated content did not always match specific learning outcomes in the syllabus. One teacher noted, "Sometimes the AI exercises are too generic, requiring extra effort to adapt them." This challenge was frequently mentioned, indicating that effective AI use requires adaptation and additional effort from teachers.

Another significant challenge was teacher preparedness. Many teachers expressed a need for more professional development to effectively use AI tools. Observations confirmed that teachers with training or prior experience in educational technology were generally more successful in integrating AI, whereas those without struggled, resulting in lower student engagement.

In summary, generative AI enhances personalized learning and increases student engagement in college English listening instruction. However, challenges such as curriculum alignment and teacher training need to be addressed to fully realize AI's benefits.

4. Conclusion and discussion

This study highlights both the opportunities and challenges of integrating generative AI into college English listening instruction. Generative AI enhances personalized learning by allowing teachers to tailor exercises to individual needs, especially in mixed-ability classrooms. AI tools also increase engagement and provide immediate feedback, promoting active learning.[3] However, challenges such as inadequate training and content misalignment hinder effective integration.

Despite these challenges, generative AI significantly fosters student autonomy and engagement. Its immediacy of feedback and customizable exercises promote independent learning, making it a valuable tool for exploration. Professional development is crucial for effective AI integration, requiring investment in training and alignment of AI with educational goals.

In conclusion, while AI can enhance personalized learning and foster autonomy, addressing issues related to teacher training and content alignment is critical. Collaborative efforts from educators, policymakers, and developers are essential to fully realize AI's benefits in language education. Supporting teachers and refining AI tools to better meet educational needs are key steps toward effective AI use. These insights provide practical recommendations for leveraging AI to enhance listening instruction in higher education, emphasizing the importance of context-specific implementation strategies.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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