Occupation and Professional Education Vol. 1 No. 7, 2024

Generative AI in Vocational English Teaching: Teacher Perspectives, Strategies, and Challenges

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Abstract: This study examines the integration of generative AI in vocational college English teaching, focusing on teachers' strategies and challenges. Using a qualitative approach with semi-structured interviews and focus group discussions, this research explores the impact of AI tools on curriculum design, lesson delivery, and assessment. The findings reveal that while AI enhances language instruction through automation and engagement, teachers face challenges such as technical limitations, lack of support, and difficulties in personalization. These insights provide valuable guidance for educators seeking to improve AI integration in vocational language education.

Keywords: Generative AI; College English; Teacher Strategies; AI-assisted English Instruction; Pedagogical Challenges

1. Introduction

The rapid development of artificial intelligence (AI) technologies has brought significant transformations to various sectors, including education. Among these advancements, generative AI stands out for its potential to revolutionize language instruction by automating routine tasks, delivering real-time feedback, and facilitating personalized learning experiences. Research has demonstrated that AI tools, particularly in language learning, effectively enhance student outcomes by delivering instant feedback and creating individualized learning pathways [1]. These tools, which encompass speech recognition, natural language processing, and machine learning algorithms, offer new opportunities for improving language learning outcomes, particularly in areas such as pronunciation, fluency, and autonomous learning. However, much of the existing research emphasizes the ways in which these technologies improve student performance, while relatively little attention has been paid to the experiences and challenges faced by teachers integrating these tools into their instructional practices.

In vocational college English instruction, where students' linguistic and vocational needs are intertwined, the use of generative AI presents both significant opportunities and challenges. Vocational education typically aims to equip students with practical language skills tailored to specific industries, making it an ideal context for AI-assisted language instruction. Studies have highlighted that AI can simulate real-world communication scenarios and provide feedback that is often challenging for teachers to offer in large, resource-constrained classrooms [2]. For instance, AI tools can simulate workplace communication, deliver immediate feedback on language use, and help students practice English in more interactive and engaging ways. Despite these advantages, integrating AI technologies into vocational English teaching requires teachers to adapt their instructional strategies, design new forms of assessment, and address the technical and pedagogical challenges that may arise.

Although AI offers considerable promise in supporting personalized learning and reducing teacher workload, the literature highlights various challenges associated with AI integration, including technical limitations, insufficient teacher training, and issues related to AI's inability to fully address complex language skills such as pragmatics and cultural nuances [3]. Furthermore, integrating AI into vocational English instruction requires teachers to rethink their roles in the classroom, shifting from direct instructors to facilitators of AI-assisted learning experiences. This transition reflects the broader shift toward technology-mediated education, where teachers are viewed as guides rather than the

primary source of knowledge [4]. However, this shift, while offering potential benefits, also presents significant challenges in classroom management, curriculum design, and maintaining a balance between human interaction and AI-based automation.

Given these complexities, this study aims to address a critical gap in the literature by exploring vocational English teachers' perspectives, strategies, and challenges in incorporating generative AI into their teaching practices. By focusing on teachers' experiences, this research seeks to provide valuable insights into how AI tools are used in vocational education settings, the practical difficulties encountered during their implementation, and the strategies teachers employ to overcome these challenges. Ultimately, this study contributes to a deeper understanding of AI's role in language education, offering practical implications for educators, policymakers, and AI developers seeking to enhance the effectiveness of AI-assisted teaching.

2. Literature Review

As artificial intelligence (AI) technologies rapidly advance, educational practices have increasingly integrated AI tools into language learning. Generative AI, a subset of AI focused on creating content such as text, speech, and images, has shown considerable promise in language instruction. Research demonstrates that AI tools can enhance language learning by delivering real-time feedback and facilitating personalized learning experiences [5]. These tools enable students to practice language in interactive environments, improving both accuracy and fluency through repeated exposure and correction. While much of the literature focuses on AI's role in enhancing student outcomes, there is growing recognition of the critical role teachers play in effectively integrating AI into classroom practices.

In recent years, AI-driven tools have been widely examined for their potential to transform language teaching, particularly in pronunciation, fluency, and autonomous learning. Studies by Chen et al. (2022) indicate that AI tools simulate real-world communication scenarios and provide immediate feedback to learners, enhancing immersive language practice [6]. Such AI applications are particularly beneficial in large classrooms, where providing individualized attention is challenging for teachers. Additionally, the ability of AI to create personalized learning pathways is recognized as a significant advantage, enabling students to progress at their own pace and target specific weaknesses [7].

Despite these advantages, some researchers argue that although AI tools are effective in managing routine tasks like pronunciation correction, they struggle with more complex aspects of language learning. For example, Friginal (2020) notes that AI tools often lack the ability to address socio-pragmatic elements of language use, including cultural nuances and contextually appropriate language choices [8]. This limitation raises concerns about over-reliance on AI tools in language learning, especially in contexts where human interaction and feedback are essential for developing higher-order language skills.

While the benefits of AI for student learning are widely recognized, there is relatively little research on the role of teachers in AI-assisted classrooms. Teachers serve as facilitators of AI integration, responsible for determining how and when to incorporate AI tools into their instruction. Kim (2024) argues that AI integration in classrooms necessitates a shift in the teacher's role from content provider to learning facilitator [9]. In this new role, teachers must navigate the technical complexities of AI tools while ensuring that students engage with the material in meaningful ways. However, as Zhang et al. (2023) observe, many teachers feel underprepared to adopt AI in their teaching, citing a lack of training and institutional support as significant barriers [10].

Furthermore, research by Kim (2024) highlights the psychological barriers teachers face when integrating AI tools into their instruction [9]. Some teachers fear that AI might replace their roles, resulting in resistance or reluctance to adopt these technologies. This suggests that successful AI integration in language education requires more than just the availability of technological tools; it necessitates comprehensive teacher training and ongoing support.

Vocational English instruction presents both unique challenges and opportunities for AI integration. Vocational education typically

focuses on equipping students with practical language skills tailored to specific industries, making it an ideal context for AI-assisted learning. Studies have demonstrated that AI tools can simulate industry-specific communication scenarios, such as job interviews or workplace conversations, offering students practical language practice directly aligned with their career goals [11]. These tools create realistic, immersive environments where students engage with language in ways that traditional classroom settings cannot easily replicate. However, AI tools alone are insufficient for developing the full range of language competencies required in vocational settings. Teachers play a critical role in designing learning experiences that integrate AI to complement and enhance human instruction.

While interest in AI's potential to transform language education is growing, several gaps remain in the research. First, there has been limited exploration of the specific challenges teachers face when integrating AI into vocational English instruction. Second, the long-term impact of AI on both teachers' instructional practices and students' language outcomes is still not fully understood. More studies are needed to evaluate how AI influences the development of higher-order language skills, such as pragmatics and discourse management, over time. Additionally, future research should investigate how AI tools can be better tailored to meet the diverse needs of vocational students, particularly those from disadvantaged educational backgrounds.

3. Methodology

This study adopts a qualitative research design to examine how vocational English teachers integrate generative AI tools into their instructional practices, with a specific focus on the strategies they employ and the challenges they encounter within industry-specific teaching contexts. The study emphasizes understanding the nuanced experiences of teachers as they navigate the integration of AI-generated content and tools into their curriculum, particularly in addressing the specialized language needs of vocational students. Given the exploratory nature of the research, a qualitative approach was deemed most appropriate to capture the depth and complexity of teachers' experiences with generative AI, particularly in contexts where technical language, pragmatics, and industry jargon are key elements of instruction.

Sixteen vocational English teachers from various institutions in Hainan Province participated in the study. Participants were purposively selected based on their active use of generative AI tools in classroom settings. The selection criteria specifically included teachers who had used AI tools such as automated language assessment platforms, AI-driven writing aids, or AI-powered dialogue simulation tools for industry-specific tasks, including job interviews, technical presentations, and workplace communication simulations. This purposive sampling ensured that participants had firsthand experience integrating AI tools in specialized teaching environments, enabling the study to focus on practical, contextually grounded insights.

Data collection involved semi-structured interviews and one-on-one reflective sessions, each lasting 60 to 90 minutes. The semi-structured interviews were guided by open-ended questions designed to explore teachers' experiences with AI tools in vocational settings. Questions addressed how AI-supported tools were used to prepare students for real-world industry tasks, how AI-generated feedback impacted language proficiency, and how teachers perceived AI's limitations in addressing context-specific language skills, such as pragmatics and industry-related communication nuances. Additionally, reflective sessions were designed to capture teachers' immediate reactions after using AI in specific class modules, allowing for real-time insights into their experiences. The reflective sessions added depth by enabling participants to articulate how AI-assisted modules aligned with or deviated from their pedagogical goals.

All interviews and reflective sessions were audio-recorded with participants' consent and transcribed verbatim. The data were subjected to detailed thematic analysis, focusing on identifying recurring themes related to the adaptation of AI tools to vocational teaching demands. The initial coding process was inductive, allowing themes to emerge from the data without preconceived categories. Particular attention was given to themes related to the unique linguistic demands of

vocational education, including industry-specific terminology, workplace language use, and the adaptability of AI tools to diverse student proficiency levels.

As themes emerged, the data were further categorized through axial coding, focusing on how teachers managed the intersection between AI-generated feedback and personalized teaching approaches. NVivo software was utilized to organize and analyze the qualitative data, ensuring a systematic and consistent analysis. Through selective coding, core categories related to teacher strategies for addressing AI's limitations in nuanced language instruction were identified, and specific examples of AI-driven challenges in vocational contexts were highlighted, including the difficulty AI tools face in comprehending context-specific language needs.

Ethical protocols were rigorously followed throughout the study. Informed consent was obtained from all participants prior to data collection, and participants were assured of the confidentiality of their responses. All data were anonymized to protect participants' identities, and the research protocol was approved by the ethics review board of the institution overseeing the study.

4. Data Collection and Findings

Data for this study were collected through semi-structured interviews and reflective sessions with 16 vocational English teachers from various institutions, all of whom had experience integrating generative AI tools into their classroom practices. Each interview lasted 45 to 60 minutes and focused on participants' use of AI technologies in vocational contexts, particularly on how AI supported the teaching of industry-specific language and the challenges faced during integration. Reflective sessions, conducted after specific AI-integrated lessons, provided real-time insights into teachers' reactions and adaptations during classroom implementation. The interview and session data were transcribed verbatim and subjected to a thematic analysis to identify recurring patterns and key insights related to AI integration in vocational language teaching.

Theme 1: AI as a Tool for Enhancing Real-Time Feedback

One of the most prominent themes to emerge from the data was the perception of generative AI as a valuable tool for delivering real-time feedback on language accuracy and fluency. Many teachers highlighted that AI tools, particularly those focused on speech recognition and pronunciation, significantly enhanced their ability to provide instant feedback to students, especially in large classroom settings where individualized feedback would otherwise be challenging. As one participant noted, "Before using AI, I couldn't possibly give every student immediate feedback on their pronunciation. Now, the AI tool helps students correct their mistakes on the spot, which has been highly effective for fluency practice."

However, while AI's capacity for instant feedback was praised, teachers also highlighted its limitations in handling context-specific language nuances, particularly industry-related jargon or colloquial expressions commonly used in vocational settings. Teachers observed that AI tools frequently misinterpreted technical terms, requiring additional teacher intervention for correction. "The AI tool works well for general English, but when students use technical vocabulary, like specific medical terms, it often struggles to provide accurate feedback," explained one participant.

Theme 2: Adapting Teaching Strategies to AI Limitations

A second theme that emerged focused on the adaptive strategies teachers employed to mitigate the limitations of AI in language instruction, particularly when teaching specialized language skills relevant to vocational contexts. Teachers reported that while AI effectively automated routine tasks such as grammar correction or pronunciation drills, it often failed to grasp the pragmatic elements of language use, including cultural and situational contexts critical to workplace communication.

To address these gaps, many teachers used AI as a supplementary tool rather than a primary instructional method. For example, teachers allowed AI to provide initial feedback on language form but followed up with personalized feedback during class discussions to ensure that students understood the nuances of workplace-specific communication. One teacher explained, "I let the AI handle basic corrections, but when it comes to real-world

applications, like how to phrase something in a business meeting, I still need to step in and provide context." This suggests that while AI tools are useful, they cannot fully replace the teacher's role in facilitating higher-order language skills, particularly in specialized vocational contexts.

Theme 3: The Challenge of Institutional Support and Infrastructure

Teachers also highlighted a significant challenge related to the lack of institutional support and sufficient infrastructure for fully integrating AI tools into vocational language teaching. While many participants expressed enthusiasm about AI's potential to transform their teaching practices, they frequently noted that their institutions lacked the necessary technological infrastructure to support seamless AI integration. "The technology is great, but we often don't have enough technical support, or the network is too slow to properly run the AI programs during class," one participant noted.

In addition to hardware and software limitations, teachers expressed concerns about insufficient training in the effective use of AI tools. Several teachers pointed out that they had to learn to use AI tools on their own, often through trial and error, which increased their workload. One participant remarked, "We've been given these amazing AI tools, but there's no formal training on how to integrate them into vocational teaching. It's been a steep learning curve." These findings suggest that for AI to be successfully integrated into vocational language education, institutions must provide not only the necessary technological infrastructure but also comprehensive professional development opportunities for teachers.

Theme 4: Balancing AI Use with Human Interaction

A recurring theme in the interviews and reflective sessions was the delicate balance teachers needed to strike between using AI tools and maintaining human interaction in the classroom. While AI tools were generally viewed as helpful for automating certain aspects of language instruction, teachers emphasized the importance of retaining a human element, especially when teaching complex, context-dependent language skills. Teachers expressed concern that over-reliance on AI could detract from the interpersonal dynamics crucial for fostering meaningful communication in vocational contexts.

One teacher summarized this sentiment, stating, "AI is a fantastic tool for language drills, but it can't replace classroom discussions where students truly learn how to communicate effectively in their jobs." Another participant echoed this concern, explaining, "AI can't pick up on the nuances of tone, body language, or cultural differences in communication, which are essential in many vocational fields." This underscores the need for a blended approach to AI integration, where technology supports but does not overshadow the critical role of human interaction in language learning.

5. Conclusion and Discussion

This study provides valuable insights into how vocational English teachers integrate generative AI into their instructional practices, focusing on the strategies they employ and the challenges they encounter. The findings indicate that while generative AI holds significant promise for enhancing language instruction, particularly by providing real-time feedback and automating routine tasks, its application in vocational education presents unique challenges. Teachers praised AI tools for their ability to assist with pronunciation and fluency exercises, but they also expressed concerns about the technology's limitations in handling context-specific language needs, especially with industry-specific jargon and pragmatic communication.

A key finding of this study is that teachers often use AI as a supplementary tool rather than a replacement for traditional instruction. AI tools were found to be highly effective in automating basic language tasks, such as grammar correction and pronunciation practice, but less capable of addressing higher-order language skills, such as pragmatic competence and culturally nuanced communication.

Moreover, this study reveals that the successful integration of AI into vocational language instruction depends not only on the availability of advanced technology but also on institutional support and adequate teacher training. The findings suggest that many teachers feel underprepared to fully leverage AI in their classrooms due to insufficient professional development and inadequate technological infrastructure. Without adequate

institutional support, teachers may struggle to effectively incorporate AI, potentially limiting the benefits these tools offer in enhancing language learning outcomes.

Another significant theme that emerged from this study is the concern about the potential reduction of human interaction in AI-integrated classrooms. Teachers emphasized that while AI tools are helpful for automating certain tasks, they cannot replace the value of face-to-face interactions, particularly when teaching language skills that require contextual understanding and cultural sensitivity. Teachers stressed the importance of maintaining a human-centered approach to language education, where AI supports, rather than replaces, the teacher-student relationship. This highlights the need for further research on how AI can be more effectively integrated into language classrooms in ways that preserve meaningful human interaction.

This study has several limitations that must be acknowledged. First, the sample size was relatively small, consisting of 16 teachers from vocational institutions, which may limit the generalizability of the findings. Additionally, the study focused on teachers who had already adopted AI tools in their classrooms, which may have introduced a bias toward more positive experiences with AI integration. Future research would benefit from including a larger and more diverse sample of teachers, including those less familiar with or more resistant to AI technologies.

Based on the findings of this study, several potential directions for future research are evident. First, further investigation is needed to explore how AI tools can be adapted to better support the teaching of industry-specific language skills, especially in contexts where vocational students must master complex technical terms and pragmatic language use. Additionally, future studies should examine the long-term effects of AI integration on both teachers' instructional practices and students' language outcomes, particularly whether improvements in fluency and pronunciation are sustained over time. Finally, research should explore how professional development programs can better equip teachers to integrate AI tools effectively into their classrooms, ensuring they have the necessary skills and support to maximize the benefits of AI-assisted learning.

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