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Exploring the Integration of Artificial Intelligence in Vietnamese Tertiary EFL Education: Teacher Perspectives and Pedagogical Challenges

Hua Hong Hieu,[1] Le Thanh Thao,[2] Pham Trut Thuy[3]

[12]Can Tho University, Can Tho City – Vietnam; [3]Nam Can Tho University, Can Tho City - Vietnam

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Abstract

This qualitative study investigates the concerns of Vietnamese tertiary English as a Foreign Language (EFL) teachers regarding the integration of Artificial Intelligence (AI) in their classrooms. As educational landscapes evolve with technological advancements, understanding educators' perspectives on AI becomes crucial, especially in settings where technological integration is still emerging. The study involved semi-structured interviews with nine EFL teachers from two Vietnamese institutions, categorized into three career stages: novice, mid-career, and near-end career. This approach provided insights into the varying perceptions and challenges experienced by teachers at different professional phases. The findings revealed four main themes: "Technological Integration Challenges in EFL Classrooms," highlighting the difficulties in incorporating AI tools into teaching practices; "Pedagogical Concerns and AI's Impact on Teacher-Student Interaction," expressing worries about how AI might alter traditional educational dynamics; "Professional Development and Readiness for AI Integration," emphasizing the need for targeted training; and "Concerns about AI's Impact on Student Learning Outcomes," focusing on the effectiveness of AI in enhancing student achievement. These themes suggest a need for comprehensive professional development in AI, careful implementation that considers the human element in education, and adaptable strategies for AI integration across different career stages. This research contributes to the growing discourse on AI in education, highlighting specific challenges and needs in the Vietnamese tertiary EFL context.

Keywords: Artificial intelligence, pedagogical challenges, teacher perspectives, Vietnamese tertiary EFL education

Introduction

In the dynamic field of education, integrating Artificial Intelligence (AI) into classroom settings has become a pivotal area of interest (Borbajo et al., 2023). It is particularly relevant in English as a Foreign Language (EFL) education, where AI technologies offer innovative approaches to language learning and, teaching (Kessler, 2018; Novawan et al., 2024). However, this technological advancement is not without

*Corresponding Author: Le Thanh Thao (thaole@ctu.eduu.vn) 411 30/4 Street, Ninh Kieu, Can Tho, Vietnam, 900000

its challenges, especially from the perspective of educators (Malaquias & Albertin, 2019). This study zeroes in on the Vietnamese tertiary education sector to explore the specific concerns of EFL teachers regarding the incorporation of AI into their classroom practices.

Vietnam, a country experiencing rapid technological growth and educational reform, provides a compelling context for this investigation (Nguyen & Tran, 2019). The introduction of AI in education poses a complex mix of opportunities and challenges (Kuleto et al., 2021). AI's potential to offer personalized learning experiences (Pratama et al., 2023), instant feedback (Moybeka et al., 2023), and novel forms of student engagement (Payne, 2019) is counterbalanced by issues about pedagogical effectiveness (Yue et al., 2022), ethical implications (Hancock et al., 2020), and the potential displacement of traditional teaching methods (George & Wooden, 2023). These factors are especially critical in the EFL setting, where the role of the teacher and the nature of language learning are undergoing significant shifts due to technological influences (Lai et al., 2018; Nelson et al., 2019). The central research question guiding this study is: What are the specific concerns of Vietnamese tertiary EFL teachers regarding integrating AI into their classroom practices?

Through exploring this question, the study aims to illuminate the attitudes and perceptions of EFL teachers in Vietnam towards AI, offering insights into the challenges and opportunities presented by its integration into language education. This research is pivotal as it contributes to the broader understanding of AI adoption in educational contexts, particularly in settings where technology's role in education is still evolving. Understanding teachers' concerns is vital for developing effective strategies that integrate AI in ways that bolster teaching and learning while simultaneously addressing educators' apprehensions.

AI in Education: Opportunities and Challenges

AI's role in education has grown, with applications ranging from personalized learning systems to automated assessment tools. Pratama et al. (2023) highlighted how AI can adapt to individual learning styles and paces, offering a more customized educational experience. Tariq et al. (2023) discussed AI's potential in providing real-time feedback and its implications for language learning, particularly in fostering autonomous learning skills.

However, these advancements are not without challenges. Kwok (2015) and Solikhah (2023) raised concerns about the over-reliance on technology, which might undermine the teacher's role and potentially lead to a depersonalized learning experience. Varona and Suárez (2022) cautioned against potential ethical issues, such as data privacy and the perpetuation of biases through AI algorithms.

Teacher Attitudes Towards AI in EFL Classrooms

Research on teacher attitudes towards AI in education reveals a spectrum of perspectives. Tran and Nguyen (2021) conducted a study in the Vietnamese context, finding that while teachers recognized the potential benefits of AI, there was apprehension about its implementation. Concerns included the adequacy of teacher training, the reliability of AI tools, and the potential loss of teacher-student interaction.

In a broader context, Chocarro et al. (2023) reported similar findings from a multinational survey, where EFL teachers expressed mixed feelings about AI adoption, citing concerns about technological competence and the impact on pedagogical practices.

AI in Vietnamese Education Context

Vietnam's education system has undergone significant transformations with increased emphasis on technology integration. Mai et al. (2024) documented the recent initiatives by the Vietnamese government to incorporate digital technologies in education, setting the stage for AI adoption. However, they also point out the gaps in infrastructure and teacher readiness for such integration. Quy et al. (2023) specifically addressed the issue of AI in Vietnamese higher education, noting that while there is enthusiasm for technology-enhanced learning, teachers lack comprehensive strategy and support to integrate AI into their pedagogy effectively.

The literature suggests that while AI presents substantial opportunities for enhancing EFL education, it also introduces several challenges and concerns, particularly from teachers' perspective. These concerns are not only technological but also pedagogical and ethical. The case of Vietnam is particularly instructive, as it underscores the need for a balanced approach that considers both the potential of AI and the readiness and concerns of educators in its implementation. This review sets the stage for the present study, which aims to delve deeper into the specific concerns of Vietnamese tertiary EFL teachers regarding AI in their classrooms.

Methods

Research Design

This study adopts a qualitative research design, utilizing semi-structured interviews to explore the concerns of Vietnamese tertiary EFL teachers regarding the use of AI in their classrooms. The choice of a qualitative approach is grounded in its suitability for gaining a deep understanding of the perceptions and experiences of individuals, which is essential for exploring the nuanced views of teachers on the integration of AI in educational contexts (Creswell & Poth, 2016).

The foundational theoretical frameworks for this study are the Technological Pedagogical Content Knowledge (TPACK) and the Diffusion of Innovations theory. TPACK, as conceptualized by Mishra and Koehler (2006), delves into the intersection of technology, pedagogy, and content knowledge, offering a comprehensive lens for examining how teachers integrate technology into their teaching. This framework is particularly pertinent to our study as it aids in understanding the specific challenges and considerations that EFL teachers in Vietnam encounter when integrating AI into their educational practices. It emphasizes the importance of a teacher's simultaneous understanding of the subject matter, pedagogical strategies, and technological tools, providing a holistic view of the competencies required for effective technology integration in education.

Complementing TPACK is Rogers et al.'s (2014) Diffusion of Innovations theory, which offers insights into how novel technologies, like AI in education, are embraced and adapted within a social system. This

theory is instrumental in exploring the various factors that influence EFL teachers' attitudes towards and adoption of AI, encompassing aspects such as AI's perceived benefits, compatibility with existing teaching methods, and the complexity of its implementation. By examining these factors, the theory assists in understanding the decision-making process of teachers regarding the use of new technologies in their classrooms.

Together, these two frameworks provide a multifaceted approach to this study. They enable a comprehensive exploration of the practical aspects of AI integration in EFL classrooms and the deeper pedagogical and contextual elements that play a crucial role in the adoption and effectiveness of AI technologies in the Vietnamese tertiary education context. This combined theoretical perspective is essential for a thorough understanding of the myriad factors that shape teachers' perceptions and concerns regarding the use of AI in educational settings.

Participants

This study employed a purposeful sampling strategy to select nine Vietnamese EFL teachers from two distinct educational institutions in Vietnam. The nine participants were selected based on specific criteria to ensure an appropriate and representative sample size for the study. This selection aimed to encompass a broad spectrum of professional experiences and insights concerning the utilization of AI in educational contexts. The criteria for selecting the participants included their career stages and experiences, which were essential for obtaining diverse perspectives. The participants were categorized based on their career stages, ensuring representation from different points in the professional lifespan of a teacher to achieve a comprehensive perspective. The participant group included three novice teachers in the early phases of their careers and were still familiarizing themselves with the educational landscape.

Additionally, three mid-career teachers were selected; these individuals have garnered substantial experience in the field but have not yet reached the peak of their professional journey. The final category comprised three near-end career teachers, distinguished by their extensive experience and knowledge gained over years of teaching. They are now nearing the latter stages of their professional careers. This deliberate stratification of participants was crucial for the study, as it aimed to unearth the diverse perceptions and potential concerns associated with AI in teaching, which might vary significantly depending on the stage of an educator's career. The goal was to explore how career progression influences teachers' receptivity and integration strategies regarding AI in the EFL classroom, thereby providing a richer and more nuanced understanding of the dynamics of adopting AI in educational settings.

Ethical considerations were paramount throughout the research process. Prior to the commencement of the study, all participants were informed of the purpose of the research, the nature of their involvement, and how their data would be used. Informed consent was obtained from each participant, ensuring that they were participating voluntarily and had the right to withdraw from the study at any point without any repercussions. Confidentiality and anonymity were strictly maintained, with all identifying information being removed or altered when presenting the findings. These measures

were taken to create a safe and ethical research environment, respecting the participants' rights and privacy while ensuring the research process's integrity. Additionally, the study adhered to the ethical guidelines and approval processes stipulated by the respective institutions and relevant academic and research bodies, ensuring that the study was conducted ethically and responsibly.

Data Collection

This study's primary data collection method was through semi-structured interviews, which were meticulously planned and executed to gather in-depth insights from the nine Vietnamese EFL teachers. Before the main interviews, a pilot study was conducted with two EFL teachers not part of the main participant group. The objective of the pilot study was to test the effectiveness of the interview questions and the overall approach. Based on the feedback received and the observations made during the pilot study, necessary revisions were made to the interview protocol to ensure clarity, relevance, and the ability to elicit detailed responses.

Some refined interview questions included inquiries such as: “How do you perceive the role of AI in your EFL classroom?” “Can you describe any challenges you foresee or have experienced in integrating AI into your teaching practice?” and “In what ways do you think AI could enhance or hinder the learning experience of your students?”. These questions were designed to provoke thoughtful responses and enable a comprehensive understanding of the participants’ perspectives on AI in EFL teaching. They were self-developed by the research team under theoretical frameworks: the TPACK and the Diffusion of Innovations theory.

The interviews were conducted in convenient and comfortable settings for the participants, often in their respective institutions or in a quiet public space conducive to a focused conversation. Each interview lasted approximately 45 to 60 minutes, allowing sufficient time for participants to express their views and experiences without feeling rushed. Importantly, the interviews were conducted in Vietnamese, the native language of all participants. This choice ensured that the participants could express themselves freely and comfortably, enhancing the authenticity and depth of the data collected.

Additionally, the use of Vietnamese necessitated the involvement of professional translation services for the transcription and translation of the interview data into English for analysis. This process was carefully managed to maintain the accuracy and integrity of the participant’s responses. The translated data were then analyzed to extract themes and patterns relevant to the research questions, ensuring a comprehensive understanding of the Vietnamese EFL teachers’ perspectives on using AI in their classrooms.

Data Analysis

The data collected from the semi-structured interviews with Vietnamese EFL teachers was analyzed using thematic analysis, a method well-suited for identifying, analyzing, and reporting patterns within data. This approach allowed for a flexible yet detailed examination of the teachers’ perspectives on integrating AI in their classrooms (Braun & Clarke, 2012).

The thematic analysis involved meticulous data familiarization, coding, and theme development. Initially, the transcribed interview data, translated from Vietnamese to English, were read and re-read to gain a deep understanding of the content. This immersion in the data was crucial for recognizing significant statements and ideas expressed by the participants.

Following this, a coding process was undertaken. In this phase, key concepts and patterns in the data were identified and tagged with codes, essentially short labels that encapsulated the essence of a particular piece of data. This process was iterative and involved refining and redefining codes as new patterns emerged and existing ones were better understood.

After coding, the focus shifted to theme development. This step involved examining the codes and the data extracts linked to them and organizing them into potential themes. A thematic analysis theme represents a patterned response or meaning within the data set. The themes were reviewed and refined to ensure they accurately represented the nuances in the data and were relevant to the research questions.

The final phase of the analysis involved defining and naming the themes, which required careful consideration of what each theme represented and how it captured an aspect of the participant's perceptions and experiences regarding the use of AI in EFL teaching. The themes were then used to construct a detailed and nuanced interpretation of the data, providing insights into Vietnamese EFL teachers' specific concerns and perspectives on integrating AI in their classrooms.

This thematic analysis was instrumental in identifying commonalities and differences in participants' views and understanding the depth and complexity of their experiences and attitudes toward AI in education. The findings derived from this analysis offered a rich, detailed, and contextually grounded understanding of the topic, aligning with the qualitative nature of the study.

Findings and Discussion

Findings

Table 1 displays the summary of findings in this study. It provides a comprehensive overview of the key themes and patterns identified through the analysis of interview data. By examining the table, readers can understand the various factors influencing AI integration in EFL classrooms, as discussed by teachers at different career stages.

Table 1

Summary of themes

Themes	Technological Integration Challenges in EFL Classrooms	Two novice teachers, two mid-career teachers, and two near-end career teachers
	Pedagogical Concerns and AI's Impact on Teacher-Student Interaction	One novice teacher, two mid-career teachers, and two near-end career teachers

	Professional Development and Readiness for AI Integration	Three novice teachers, three mid-career teachers, and three near-end career teachers
	Concerns about AI's Impact on Student Learning Outcomes	Two novice teachers, three mid-career teachers, and two near-end career teachers

Technological Integration Challenges in EFL Classrooms

This theme emerged as a significant finding in this study, highlighting teachers' various challenges when incorporating AI into their teaching practices. This theme was particularly pronounced across different career stages, with two novice teachers, two mid-career teachers, and two near-end career teachers emphasizing these challenges.

A novice teacher shared, "Sometimes, it is hard to keep up with all these new tools and figure out how best to use them for teaching English." This statement reflects a struggle with integrating emerging technologies into teaching, indicative of a gap in technological knowledge. Participant A's experience can be understood through the TPACK framework, which emphasizes aligning technological, pedagogical, and content knowledge. Concurrently, from the Diffusion of Innovations theory perspective, this challenge also points to the issue of complexity, where the perceived difficulty of understanding and using the AI tools may act as a barrier to their adoption.

From the mid-career group, "While I see the potential of AI, I often find it challenging to integrate these tools seamlessly with my current teaching methods." This concern highlights a tension between existing teaching practices and new technologies. According to the TPACK framework, this tension arises from the need to adapt and align pedagogical strategies with new technological tools. Similarly, the Diffusion of Innovations theory suggests that this challenge could stem from issues of compatibility, where the new AI tools may not align well with the established methods and preferences of the teacher.

Lastly, a near-end career teacher remarked, "I question whether these AI tools can truly match the quality of traditional teaching methods I have refined over the years." This skepticism can be interpreted through the TPACK lens because of a well-developed pedagogical and content knowledge base against which new technologies are critically evaluated. From the Diffusion of Innovations theory perspective**,** this attitude reflects concerns about the relative advantage of AI tools over traditional methods and the potential risk of adopting new, unproven technologies.

Each excerpt demonstrates the multifaceted nature of technological integration challenges in EFL classrooms, influenced by the teachers' career stages. Through the lens of both the TPACK framework and the Diffusion of Innovations theory, these challenges stem from a complex interplay of technological, pedagogical, and content knowledge, as well as factors like perceived complexity, compatibility, and relative advantage of the AI tools.

Pedagogical Concerns and AI's Impact on Teacher-Student Interaction

Five participants notably mentioned this theme: one novice teacher, two mid-career teachers, and two near-end career teachers. It highlights apprehensions about how the incorporation of AI in EFL classrooms might alter the traditional dynamics between teachers and students.

The novice teacher expressed, "I worry that relying too much on AI could make my interactions with students more impersonal." This concern reflects a tension within the TPACK framework, where technology integration potentially disrupts the established pedagogical approach and the teacher-student relationship. Simultaneously, from the Diffusion of Innovations theory perspective, this reflects a concern about the social system disruption, questioning how AI adoption alters traditional teacher-student interaction dynamics.

A mid-career teacher shared a nuanced view: "AI can be a great tool, but it should not replace the human element in teaching. There is a balance to be struck." This statement illustrates an awareness of the need to integrate technology while preserving essential pedagogical values, a key aspect of the TPACK framework. In terms of the Diffusion of Innovations theory, this reflects the teacher's consideration of the relative advantage of AI, balancing its benefits against the potential loss of human interaction in teaching.

Finally, a near-end career teacher commented, "My years of teaching have shown me the importance of personal connection in education. I am not sure if AI can maintain that." This perspective underscores the depth of pedagogical experience and its influence on technology perceptions, as TPACK indicates. Additionally, through the Diffusion of Innovations theory lens, this comment highlights resistance due to perceived threats to established and valued teacher-student relationships.

These excerpts collectively demonstrate how teachers at different stages of their careers perceive the impact of AI on pedagogical practices and teacher-student interactions. The TPACK framework and the Diffusion of Innovations theory provide valuable insights into these concerns. TPACK highlights the challenge of integrating technology without undermining the pedagogical relationship. At the same time, the Diffusion of Innovations theory emphasizes the perceived implications of AI on the established social dynamics of the classroom.

Professional Development and Readiness for AI Integration

All nine participants particularly emphasized this theme, cutting across different career stages - three novice teachers, three mid-career teachers, and three near-end career teachers. It highlights concerns regarding the adequacy of current professional development programs in preparing teachers to integrate AI into their teaching practices effectively.

A novice teacher stated, "I feel like I need more training to use AI in my classes effectively. We did not cover much of this in our teacher training program." This sentiment reflects a gap in the TPACK framework, specifically in the technological knowledge domain. It suggests that the current teacher education programs may not sufficiently prepare new teachers for the technological demands of modern classrooms. In the Diffusion of Innovations theory, this lack of training can be seen as a barrier

to adopting new technologies, as it increases the perceived complexity and decreases the likelihood of successful implementation.

From the mid-career group, one noted, "Even with my experience, I find it challenging to keep up with the latest AI tools and how to apply them effectively in teaching." It highlights a continuous need for professional development throughout a teacher's career, as suggested by the TPACK framework, to maintain an effective integration of technology, pedagogy, and content knowledge. According to the Diffusion of Innovations theory, this reflects the ongoing need for resources and support to facilitate the assimilation of innovations into existing practices.

Lastly, a near-end career teacher expressed, "I have seen many changes in teaching methods over the years. Adapting to AI is another step, but we need proper support and training to do it right." This viewpoint indicates an awareness of the evolving nature of educational technology and the need for lifelong learning, a key aspect of TPACK. The Diffusion of Innovations perspective underscores the importance of continuous innovation and adaptation within the teaching profession.

These excerpts reveal a consensus among teachers of various career stages on the necessity for comprehensive professional development in AI. The findings underscore the need for ongoing education and support to build and maintain the competencies outlined in the TPACK framework. Moreover, consistent with the Diffusion of Innovations theory, these insights highlight the critical role of institutional support and resources in facilitating the adoption and effective use of AI in educational settings.

Concerns about AI's Impact on Student Learning Outcomes

This theme resonated across all career stages of the participants, with two novice teachers, three mid-career teachers, and two near-end career teachers expressing concerns about how AI integration could affect the educational achievements of their students.

One of the novice teachers mentioned, "I am not fully convinced that AI can cater to the diverse learning needs of all my students." This concern touches upon the pedagogical aspect of the TPACK framework, where the teacher is considering the effectiveness of technology in meeting varied learning styles and needs. From the Diffusion of Innovations theory perspective, this reflects skepticism about the relative advantage of AI in enhancing student learning outcomes, especially given the diversity in student backgrounds and abilities.

A mid-career teacher shared a concern: "While AI offers innovative ways to engage students, I am unsure about its ability to assess and improve their language skills effectively." This statement highlights a concern about aligning technological tools with pedagogical goals, a key consideration of the TPACK framework. In terms of the Diffusion of Innovations theory, this reflects the uncertainty about the efficacy of AI tools in achieving desired educational outcomes, which can influence the decision to adopt such technologies.

Lastly, a near-end career teacher expressed, "Over the years, I have seen various educational tools come and go. My main concern with AI is whether it truly adds value to my students' learning

experience." This perspective critically evaluates new technologies based on extensive teaching experience, aligning with the TPACK framework's emphasis on integrating content, pedagogy, and technology. From the Diffusion of Innovations theory viewpoint, this highlights the teacher's consideration of the innovation's overall impact on the educational process.

These excerpts collectively underscore the teachers' concerns about the actual benefits of AI in improving student learning outcomes. Through the lens of the TPACK framework, these concerns reflect the need for a harmonious integration of technology that complements and enhances pedagogical objectives. Similarly, the Diffusion of Innovations theory provides a perspective on teachers' apprehensions regarding adopting AI, focusing on its effectiveness and utility in the educational context.

Discussion

The findings of this study contribute significantly to the existing body of research on the integration of AI in EFL classrooms, particularly highlighting the nuanced perspectives of Vietnamese EFL teachers at different career stages. The themes identified in this research resonate with, yet also distinguish themselves from, findings in previous studies, enriching the understanding of AI's role in modern education. The divergence in findings from other studies could be attributed to cultural differences, varying levels of technological infrastructure, and distinct educational policies in Vietnam compared to other regions. Furthermore, this study's unique career stage categorization offers a more detailed lens through which to view these differences, suggesting that similar studies in different contexts might reveal comparable trends if similar categorization is applied.

The technological integration challenges in EFL classrooms align with existing literature that underscores teachers' struggles with new technologies in educational settings. For example, studies by Crocker and Mazer (2019) and Dele-Ajayi et al. (2021) have similarly highlighted concerns about the integration of technology in teaching, primarily focusing on the general apprehension towards technology use. However, this study extends these findings by emphasizing the variation in challenges across different career stages, offering a more granular understanding of how career progression influences teachers' perceptions and integration strategies. This aspect of the finding, examined through the lenses of both the TPACK framework (Mishra & Koehler, 2006) and the Diffusion of Innovations theory (Rogers et al., 2014), underscores the complexity of technological adoption, which is not just a matter of introducing new tools but also involves considering the interplay of technological, pedagogical, and content knowledge.

The pedagogical concerns and AI's impact on teacher-student interaction found in this study echo previous research that has raised questions about the impact of technology on the teacher-student relationship (Harper, 2018; Yeung et al., 2023). However, this study contributes to the field by delving deeper into how AI, as opposed to technology in general, might affect this dynamic. The findings suggest that while AI offers new opportunities for engagement and learning, there is a significant concern among teachers about losing the essential human element in education. This concern is pronounced in the observations of mid-career and near-end career teachers, who have witnessed the evolution of teaching methods and tools.

Regarding the teachers' professional development and readiness for AI integration, this study aligns with the broader educational research that advocates for continuous professional development in light of emerging technologies (Abbas et al., 2023; Dahri et al., 2021). What sets this study apart is the unanimous emphasis across all career stages on the need for specific training in AI. This finding underscores a gap in current professional development programs, which might not fully address the unique challenges posed by AI integration in EFL classrooms.

Lastly, the concerns about AI's impact on student learning outcomes resonate with a common thread in educational research: the scrutiny of any new tool or method in terms of its impact on learning outcomes (Hakiki et al., 2023; Wu & Yu, 2024). However, this study brings a novel perspective by highlighting EFL teachers' skepticism about AI's effectiveness in catering to diverse learning needs and achieving desired language proficiency levels. This skepticism, as analyzed through the TPACK framework and the Diffusion of Innovations theory, reflects a concern about a new tool and a deeper questioning of its pedagogical value and alignment with educational goals.

Conclusion

This study set out to explore the specific concerns of Vietnamese tertiary EFL teachers regarding the integration of AI in their classrooms. Situated in the rapidly evolving landscape of educational technology, where AI presents both opportunities and challenges, this research aimed to deepen the understanding of how teachers at different career stages perceive the incorporation of AI into their teaching practices. The qualitative methodology, semi-structured interviews with nine EFL teachers from two Vietnamese educational institutions, provided a rich and detailed dataset. Participants were categorized into three career stages—novice, mid-career, and near-end—to capture a broad spectrum of experiences and perspectives.

The findings of this study revealed several key themes: technological integration challenges in EFL classrooms, pedagogical concerns and AI's impact on teacher-student interaction, professional development and readiness for AI integration, and concerns about AI's impact on student learning outcomes. These themes highlighted various concerns, from the practical challenges of integrating AI tools into existing teaching practices to more profound worries about how AI might alter the dynamics of teacher-student interactions and affect student learning outcomes. Moreover, a unanimous call for more targeted professional development in AI was evident across all career stages.

The implications of these findings are significant for educators, policymakers, and developers of AI educational tools. Firstly, the study underscores the need for comprehensive and ongoing professional development programs to equip teachers with the skills and knowledge required to effectively integrate AI into their teaching. Such programs should address not only the technological aspects of AI but also its pedagogical applications and implications. Secondly, the concerns about AI's impact on teacher-student interaction and student learning outcomes suggest that AI tools must be designed and implemented to complement and enhance traditional teaching methods rather than replace them. It involves careful consideration of the human element in education, ensuring that AI is used to support and enrich the learning experience rather than diminish the role of the teacher. Lastly, the variation in concerns across

different career stages indicates that strategies for integrating AI in education should be flexible and adaptive, considering teachers' diverse needs and experiences. New teachers may require more support in developing technological proficiency. In contrast, experienced teachers might benefit from guidance on integrating AI into their well-established pedagogical practices.

In conclusion, this study contributes valuable insights into the evolving role of AI in EFL education, particularly in the context of Vietnamese tertiary education. By highlighting teachers' specific concerns and needs at different stages of their careers, the study not only adds to the existing body of research on educational technology but also provides practical guidance for the effective integration of AI in educational settings. The findings call for a balanced approach to AI integration that respects and enhances the pedagogical relationship between teachers and students and acknowledges the continuous evolution of teaching practices in the age of digital technology.

One of the primary limitations of this study lies in its scope and sample size. With nine EFL teachers from only two institutions in Vietnam, the insightful findings are not broadly generalizable to all Vietnamese tertiary EFL teachers or other cultural and educational contexts. The qualitative nature of the research, focusing on in-depth insights from a small group, provides rich, detailed data but limits the ability to make wide-ranging conclusions. Additionally, the study addresses teachers' perceptions and concerns, which may not fully capture the effectiveness or impact of AI integration in classrooms. This aspect leaves room for further empirical investigation into the outcomes of AI use in educational settings.

Future research could expand on this study in several ways. Firstly, a larger-scale study involving a more diverse and extensive sample of teachers across various regions and types of educational institutions in Vietnam would provide a more comprehensive understanding of the challenges and opportunities associated with AI in EFL teaching. Quantitative methods, such as surveys or experimental designs, could complement the qualitative insights of this study, offering broader generalizability and the potential to measure the actual impact of AI on teaching practices and student outcomes. Additionally, longitudinal studies would be valuable in understanding how teachers' perceptions and the effectiveness of AI integration in education evolve, especially as technology and pedagogical approaches develop. Exploring students' perspectives on AI in EFL classrooms would also be beneficial, providing a more holistic view of the educational impact of AI. Finally, comparative studies between Vietnam and other countries could offer global insights into the integration of AI in EFL education, highlighting cultural and contextual differences in educational technology adoption.

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