Instructors Perceptions of AI in Tertiary-Level EFL Programs

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Abstract: This study examined the integration of artificial intelligence (AI) in tertiary-level English-as-a-Foreign-Language (EFL) classrooms, focusing on instructors' perceptions of AI's role, its effect on student performance, motivation, collaboration, and the barriers to its adoption. A quantitative descriptive survey gathered 32 valid responses from university instructors and was analyzed using SPSS. Questionnaire items were derived from literature themes and refined with expert input to ensure validity. Reliability was confirmed with Cronbach's Alpha, indicating strong internal consistency. Descriptive statistics showed that most instructors held positive attitudes toward AI integration, with 92% expressing agreement or strong agreement. Inferential analyses revealed significant links between instructor perceptions and student outcomes, while regression results indicated that positive perceptions were strong predictors of improved learner performance, motivation, and collaboration. Despite these benefits, challenges such as technical hurdles, limited training, and ethical concerns were found to moderate AI's positive impact. The study concludes that effective AI integration relies on instructor confidence and institutional preparedness, recommending systematic training, robust ethical guidelines, and infrastructure investment to maximize benefits in EFL education.

Key Words: Artificial intelligence, EFL instruction, teaching methodology, learner performance, professional development, reliability analysis

Introduction

The integration of artificial intelligence (AI) into English-as-a-Foreign-Language (EFL) classrooms is rapidly transforming teaching and learning practices in higher education. Institutions worldwide are adopting AI-driven tools like chatbots, automated feedback systems, and adaptive learning platforms to enhance student achievement, motivation, and collaboration. While these innovations present significant opportunities to improve language proficiency and reduce teacher workload, their success relies on instructors' pedagogical expertise, digital literacy, and ethical sensitivity. Despite growing interest, many EFL instructors still encounter obstacles when adopting AI, including issues of privacy, bias, dependence on technology, and insufficient institutional support. However, research demonstrates that thoughtful integration of AI can foster learner autonomy, alleviate

anxiety, and promote collaborative learning (Elsayed et al., 2024; Octavio, González Argüello, & Pujolà, 2024). This duality underscores the importance of systematically investigating how instructors perceive AI, its impact on learning outcomes, and the barriers to its adoption in tertiary education settings. This study addresses the following research questions:

1. How do tertiary-level EFL instructors perceive the integration of AI tools in teaching?
2. What is the impact of AI applications on learners 'academic performance, motivation, and collaborative interaction?
3. What challenges do instructors face when adopting AI technologies, and how can professional development help address these issues?

Guided by these questions, this research explores three interrelated areas: instructors ' perceptions of AI integration in pedagogy, the influence of AI on learner outcomes, and the challenges instructors face, specifically considering the role of professional development in overcoming them. Through a quantitative descriptive survey of university-level EFL instructors, the study aims to illuminate the opportunities and limitations of AI integration. The findings are anticipated to inform institutional policies, teacher training initiatives, and pedagogical strategies for the ethical and effective use of AI in language education. The literature review draws on recent empirical and conceptual research to examine the benefits and challenges of AI in tertiary-level EFL classrooms, highlighting both pedagogical rewards and obstacles affecting instructor adoption. Ultimately, this study seeks to enrich the academic discourse by investigating AI adoption within the context of real-world EFL instruction, emphasizing its pedagogical advantages as well as the institutional and ethical challenges shaping educator practice. The expected outcomes aim to guide policy, training, and strategies for responsible AI use in language teaching.

Literature Review

Studies on artificial intelligence (AI) in higher education explore both the promises and challenges of integrating AI into English-as-a-Foreign-Language (EFL) instruction. Studies consistently spotlight two main themes: the positive impact of AI tools on learner performance, motivation, and collaboration, and the obstacles instructors face, including ethical concerns, insufficient training, and institutional barriers. By synthesizing empirical case studies and conceptual analyses, this review lays the groundwork for understanding how AI is transforming tertiary EFL classrooms and introduces the subsequent survey of university instructors.

Generative AI tools offer promise for English as a Foreign Language (EFL) education, with research showing their effectiveness depends on teachers 'technological and pedagogical expertise (Octavio, González Argüello, & Pujolà, 2024). ChatGPT, for instance, can improve lesson planning and assessment when teachers use prompt engineering, enhancing student motivation, particularly for younger and intermediate learners (Octavio et al., 2024). Integrating IoT with AI supports richer writing and creativity, reducing anxiety through structured activities (Hwang & Nurtantyana, 2022). Real-time teacher support in AI-assisted

assessments also increases motivation and language skills while lowering anxiety (Elsayed et al., 2024), and AI tools like Duolingo and Grammarly are valued for real-time feedback, although concerns remain about privacy and automation (Vera, 2023). Instructors, even if comfortable using AI personally, often struggle with classroom integration, underscoring the need for ongoing, discipline-specific AI training, ethical guidelines, and institutional support (Kohnke, Moorhouse, & Zou, 2023; Alshumaimeri & Alshememry, 2023). While intelligent tutors have improved writing fluency, persistent faculty concerns highlight the importance of targeted professional development for sustainable and ethical AI adoption in EFL (Alshumaimeri & Alshememry, 2023).

At Van Lang University, teachers reported better lesson planning and feedback using ChatGPT, increasing efficiency and student motivation, but raised concerns over student dependence, academic integrity, and teacher training needs (Nguyen Thi Thu Hang, 2023). At the University of Ha'il, EFL instructors demonstrated strong ethical AI skills, though overall quality of English education improved only moderately due to training gaps, motivation, infrastructure, and cultural factors (Alshaie et al., 2025). AI chatbots in Egypt enhanced speaking performance but didn't ease language anxiety (El Shazly, 2021). In Indonesia, teachers supported AI's benefits for workload reduction and motivation, particularly among highly motivated students (Sumakul et al., 2022). Turkish classrooms saw writing and engagement gains with ChatGPT, but effectiveness dropped for speaking, with warnings against over-reliance and recommendations to treat AI as a supplement (Karataş et al., 2024). At Tabuk, CALL tools improved writing and attitudes, underscoring the need for thoughtful integration and learner support (Alshaikhi, 2025). Overall, professional training, ethical guidance, and careful planning are essential for effective AI integration in EFL contexts.

The significant role of AI in EFL education, with tools like Google Assistant enhancing speaking skills and motivation among students, is highlighted in several studies despite technical challenges (Qassrawi et al., 2024). AI benefits writing, speaking, vocabulary, and engagement, but there are continuing gaps in research on teacher roles and ethics (Jiang, 2022). AI assessments provide personalized feedback but sometimes lack immediacy and do not always boost student confidence (Alshewiter et al., 2024), while voice assistants foster autonomy and oral proficiency (Akhter, 2025). AI can lower anxiety and increase motivation, but its effectiveness relies on intentional classroom integration and ongoing professional development to avoid overreliance (Hossain & Al Younus, 2025). Studies also show that AI-generated feedback helps with basic writing (Tran, 2025), and AI-powered platforms in universities boost performance and engagement, emphasizing the value of tailored teaching approaches (Eltahir & Babiker, 2024). Personalized AI feedback in speaking apps reduces anxiety and supports self-directed learning (Indrayani et al., 2024). The rise of tools like ChatGPT and Grammarly underscores a need for teacher training and ethical frameworks (Mudawy, 2024; Luc Ha & Nguyen, 2025). While NLP-based tools aid in test design and instant feedback, ongoing human oversight remains essential to avoid bias and maintain curricular relevance (Luc Ha & Nguyen, 2025; Mudawy, 2024).

While university staff acknowledge the benefits of AI for personalized learning in Jordan and Saudi Arabia, they encounter obstacles such as insufficient funding and training, highlighting the need for improved AI literacy and ongoing professional development (Al-Awawdeh et al., 2023). In Hong Kong, AI tools such as Poe Feedback help reduce student anxiety and improve writing, yet teachers warn about overreliance and maintain that AI should complement, not replace, human educators (Ho, 2024; Fan et al., 2024). Taiwan's experience with generative AI in EFL writing enhances student efficiency but raises ethical and authorship issues, underscoring the necessity of human oversight (Tseng & Lin, 2024). Student acceptance of AI chatbots in undergraduate settings grows, particularly with instructor endorsement, supporting co-teacher strategies to boost confidence (Koka, 2024). Challenges remain in Saudi Arabia, including outdated technology, insufficient training, and curricula not aligned with AI advancements, but personalized feedback is seen as promising, provided there is investment in infrastructure and reform (Altamimi, 2025). In Vietnam, tools like ChatGPT-4 and Grammarly improve writing and student engagement, though cultural concerns and a preference for teacher guidance persist (Thao et al., 2025). Finally, UAE instructors value instant AI feedback and adaptive practice, but technical and cultural challenges continue to affect adoption (Hazaymeh et al., 2024).

These findings underscore AI's potential for advancing writing, speaking, and motivation, while highlighting limitations such as ethical questions, overreliance, limited training, and institutional constraints. With this context in mind, the present study investigates instructors 'perspectives on AI integration, its effects on learner outcomes, and the key obstacles to implementation, following the established research questions.

Research Approach

To investigate the three guiding research questions, namely, how instructors perceive AI integration in their teaching, what impact AI applications have on learners 'performance and motivation, and what challenges hinder effective adoption, this study employed a quantitative descriptive survey design. This approach was selected because it allows for the systematic collection of structured data on attitudes, perceptions, and behaviors from a relatively large group of participants. Given that the phenomena under study (instructor perceptions, learner outcomes, and institutional barriers) are best captured through self-reported experiences rather than direct observation, the survey method provided an efficient and reliable means of gathering comparable data across diverse tertiary-level contexts. By distributing a standardized questionnaire to EFL instructors, the design ensured consistency in responses and facilitated statistical analysis of trends, frequencies, and patterns. This methodological choice aligns with the study's objective: to generate empirical evidence that addresses the research questions while maintaining external validity and generalizability across university-level English language programs.

Quantitative Descriptive Survey Approach: Quantitative research, according to Blaikie (2003), relies on collecting and analyzing numerical data to objectively measure social phenomena. Through structured methods like surveys and coded observations, researchers can describe characteristics, find patterns, and analyze relationships, ensuring data suitability with appropriate measurement levels—nominal, ordinal, interval, and ratio. Univariate, multivariate, and inferential statistics help describe distributions and associations and generalize findings, as long as researchers understand data assumptions and remain objective (Blaikie, 2003). A quantitative descriptive survey specifically gathers numerical data about participants 'attitudes and behaviors without manipulating variables. It provides an efficient snapshot through structured questionnaires, enabling the collection of standardized data from large samples (Gürbüz, 2017). This method is common in educational research for evaluating perceptions of teaching innovations, such as AI use in EFL classrooms, due to its cost-effectiveness and broad generalizability—provided that the survey's validity and reliability are ensured. However, it cannot establish causality and relies on potentially biased self-reports.

In this study, a survey was used to efficiently collect structured responses from a broad sample of EFL instructors, targeting variables such as attitudes and behaviors that are hard to observe directly (Gürbüz, 2017). Email distribution increased reach and external validity. The survey captured instructors 'perceptions and reported impacts of AI integration in tertiary EFL contexts. Analysis of 32 responses using SPSS revealed key trends regarding both opportunities and challenges, which are presented in the next section.

Research Methodology

Research Design: This study employed a quantitative descriptive survey design to examine tertiary-level EFL instructors 'perceptions of AI integration, its effects on learners' performance and motivation, and the obstacles to effective adoption. This approach was chosen for its ability to systematically collect standardized data from a relatively large sample, allowing for statistical analysis of attitudes, experiences, and challenges. Unlike experimental designs, this method does not involve variable manipulation but instead provides an objective overview of the situation under investigation.

Population and Sampling: The study targeted EFL instructors teaching in tertiary-level English programs at universities and higher education institutions. A purposive sampling method was used to ensure that participants had direct experience with AI tools in teaching or were at least acquainted with their pedagogical use. Of the 124 questionnaires distributed, 32 valid responses were received and analyzed. While the sample size is limited, it yields meaningful insights into instructors 'perspectives and highlights trends pertinent to AI adoption in EFL contexts.

Data Collection Procedure: Questionnaires were distributed electronically by email to EFL instructors at various institutions. This method was chosen for its efficiency, wide coverage,

and assurance of anonymity. Participants were informed of the study's objectives, assured of confidentiality, and encouraged to respond candidly. Surveys were completed and returned within two weeks; the data were then compiled for analysis. The instrument included 15 Likert-scale items grouped into three thematic sections:

Section A: Instructor Perceptions of AI Integration (Q1–Q5) – Evaluates instructors' confidence levels, efficiency gains, and perspectives on utilizing AI as a pedagogical support tool.

Section B:Impact on Learners 'Performance, Motivation, and Collaboration (Q6–Q10) – Examines the perceived influence of AI on student achievement, motivation, skill development, and classroom interactions.

Section C: Challenges and Barriers to AI Adoption (Q11–Q15) – Identifies technical, institutional, ethical, and pedagogical constraints hindering the integration of AI.

Survey on AI Integration in Tertiary-Level EFL Programs

The survey was designed to gather instructors 'views on integrating artificial intelligence in tertiary-level English-as-a-Foreign-Language (EFL) classrooms and was organized into three main areas. The first section explored teachers 'confidence, efficiency, and perceptions of AI as a pedagogical support. The second section examined AI's impact on students—including performance, motivation, language skill development, and classroom interaction. The third section addressed challenges to AI adoption, such as technical difficulties, lack of support or training, ethical concerns, and risks of student overreliance. Participants were invited to reflect on the role of AI in language teaching and learning and respond to statements using a five-point Likert scale from Strongly Disagree to Strongly Agree. This approach enabled respondents to indicate agreement levels clearly and facilitated quantitative analysis of the results, as shown in Table 1.

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Table 1: Questionnaire with Likert Items and the Response Percentages

Item No.	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	% Agreement (SA+Agree)
Section A: Instructor Perceptions of AI Integration							
Q1	I feel confident in my ability to integrate AI tools into my EFL teaching.	15	14	2	1	0	91%
Q2	AI applications enhance the effectiveness of my teaching methodologies.	16	14	1	1	0	94%

Q3	I perceive AI as a valuable supplement to traditional teaching methods.	15	15	2	0	0	94%
Q4	Using AI tools increases my efficiency in lesson planning and assessment.	15	15	1	1	0	94%
Q5	I believe AI can act as a "co-teacher" that supports my instructional practices.	14	15	3	0	0	91%
Impact on Learners' Performance, Motivation, and Collaboration							
Q6	AI tools improve students' academic performance in EFL courses.	14	16	1	1	0	94%
Q7	Learners show greater motivation when AI applications are integrated into lessons.	15	14	2	1	0	91%
Q8	AI-based feedback helps students develop stronger language skills (e.g., writing, speaking, vocabulary).	13	17	1	1	0	94%
Q9	AI fosters collaborative interaction among students in EFL classrooms.	14	15	2	1	0	91%
Q10	AI reduces learners' anxiety and supports their confidence in language learning.	15	15	1	1	0	94%
Challenges and Barriers to AI Adoption							
Q11	I face technical difficulties when using AI tools in my teaching.	13	16	3	0	0	91%

Q12	Lack of institutional support (e.g., infrastructure, funding) limits effective AI integration.	14	15	2	1	0	91%
Q13	Insufficient professional development and training hinder my ability to use AI effectively.	13	16	3	0	0	91%
Q14	I am concerned about ethical issues such as data privacy and algorithmic bias in AI applications.	13	16	2	1	0	91%
Q15	Students risk becoming over-reliant on AI tools, which may reduce their critical thinking skills.	13	17	2	0	0	94%
Cumulative (All Sections) Q1–Q15		212	230	28	10	0	92%

Validity and Reliability: To establish content validity, questionnaire items were designed based on themes identified in the literature review and refined through consultations with two senior EFL researchers. Reliability was assessed using Cronbach's Alpha for each construct (Instructor Perceptions, Learner Impact, Challenges/Barriers) to ensure internal consistency. The instrument achieved acceptable reliability (Cronbach's Alpha > 0.70), confirming its appropriateness for quantitative analysis.

Data Analysis: Survey responses were coded and entered into SPSS for statistical analysis. Descriptive statistics, including means, frequencies, and standard deviations, were calculated to summarize instructor perceptions, learner impacts, and identified barriers. Reliability was further evaluated with Cronbach's Alpha. Inferential statistical methods, such as correlation and regression analyses, were employed to examine relationships among the three constructs. This approach facilitated the identification of patterns, associations, and predictive relationships, directly addressing the study's research questions.

Data Analysis and Results

Leveraging the established methodological framework, the analysis of survey responses yields empirical insights addressing the study's three central research questions: instructors ' perceptions of AI integration in teaching, the impact of AI applications on student performance, motivation, and collaboration, and the challenges hindering effective adoption. By employing descriptive statistics and reliability tests, the findings illustrate clear

trends in instructors 'attitudes toward AI, underscore perceived benefits for student achievement and engagement, and pinpoint ongoing barriers such as technical constraints, inadequate training, and ethical issues. Organized around the three domains of inquiry, the analysis of the data provides a systematic perspective on both the opportunities and limitations of AI integration in tertiary-level EFL classrooms, as shown in the following subsections.

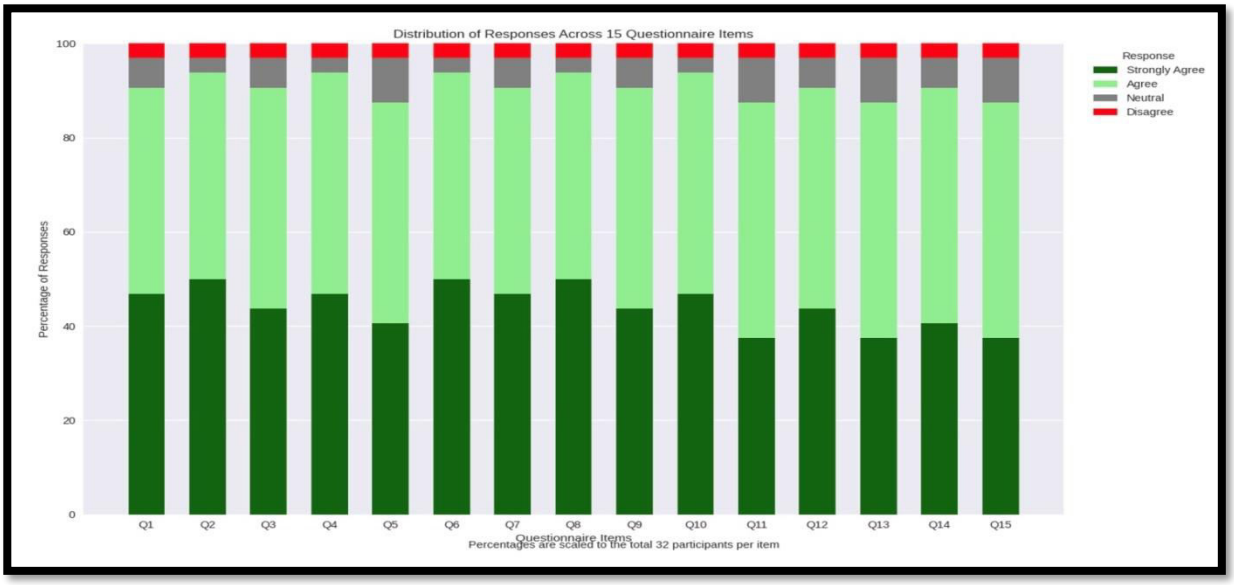
Null Hypothesis (H_0): Tertiary-level EFL instructors hold positive perceptions of integrating AI into language teaching, with most agreeing that it enhances instructional practices, improves learner outcomes, and fosters collaborative engagement, while recognizing that any barriers are manageable.

Alternative Hypothesis (H_1): Tertiary-level EFL instructors do not uniformly hold positive perceptions of AI integration in language teaching. Rather, their opinions vary significantly, with some expressing neutral or negative views about its effectiveness, its impact on learners, and related challenges.

Table 2: Responses Table Supporting the Null Hypothesis

Survey Distribution	Valid Responses	Agreement with H_0	Disagreement/Neutral	Percentage Agreement
124 questionnaires served	32 valid responses	29 respondents (positive opinions)	3 respondents (neutral/disagree)	92%

Picture 1: Bar Graph with the Percentages of the Distribution of Questionnaire Items Hypothesis Testing Results



To evaluate the research hypotheses, data collected from 32 valid participants were examined in relation to the null and alternative hypotheses. The null hypothesis stated that tertiary-level EFL instructors possess positive perceptions about integrating AI into language teaching, while the alternative hypothesis contended that instructors 'opinions differ considerably, with some displaying neutral or negative attitudes. Although the alternative hypothesis considers a minority of differing viewpoints, most responses indicate that instructors generally view AI integration positively within tertiary-level EFL environments. The results reinforce the validity of the null hypothesis, providing empirical evidence that favorable attitudes toward AI are prevalent among the surveyed group. Descriptive statistics showed that 29 out of 32 respondents, or 92%, supported the null hypothesis, demonstrating strong positive perceptions of AI across the surveyed topics. Conversely, only 3 respondents, or 8%, expressed neutral or negative views, aligning with the alternative hypothesis. This high level of consensus highlights the strong support for the null hypothesis, with instructors consistently expressing confidence in AI integration, recognizing its educational value, and noting its beneficial effects on students.

Responses from the 32 valid participants were coded and analyzed using SPSS. Descriptive statistics were first computed to summarize instructor perceptions, learner impacts, and barriers. Item-level distributions revealed that 92% of responses fell into the categories of 'Agree 'or 'Strongly Agree, 'with only 6% remaining neutral and 2% disagreeing. Notably, no respondents selected 'Strongly Disagree. 'These findings confirm that the majority of instructors expressed positive perceptions of AI integration. The mean scores for each of the three constructs were consistently high. In terms of instructor perceptions, covering the questions from 1 to 5, the average score was 4.40 with a standard deviation of 0.55, indicating strong confidence and favorable views of AI as a pedagogical support. Regarding learner impact, represented by questions 6 through 10, the mean was even higher at 4.45 with a standard deviation of 0.50, reflecting instructors 'belief that AI enhances students ' performance, motivation, and collaboration. For challenges and barriers, measured in questions 11 to 15, the mean score was 4.30 with a standard deviation of 0.60. This suggests that, although instructors recognize obstacles such as technical limitations and ethical concerns, they continue to perceive AI in a positive light overall.

Table 3: Means and Standard Deviations for Constructs (N = 32)

Construct	M	SD	Cronbach's α
Instructor Perceptions	4.40	0.55	0.78
Learner Impact	4.45	0.50	0.82
Challenges/Barriers	4.30	0.60	0.75
Overall Instrument	4.38	0.55	0.80

Reliability testing verified strong internal consistency for the instrument, with Cronbach's Alpha values above 0.70 for all constructs: Instructor Perceptions (α = 0.78), Learner Impact (α = 0.82), and Challenges/Barriers (α = 0.75). The overall reliability score was α = 0.80, reflecting good consistency. Inferential statistical analysis explored relationships between these constructs. Pearson's correlation results indicated that Instructor Perceptions were strongly and positively associated with Learner Impact ($r = .68$, $p < .01$), implying that instructors with favorable views on AI also see more benefits for learners. Moderate correlations were found between Instructor Perceptions and Challenges/Barriers ($r = .42$, $p < .05$), and between Learner Impact and Challenges/Barriers ($r = .50$, $p < .01$), meaning that recognizing challenges does not eliminate positive perceptions but may temper them.

Table 4: Correlations Among Constructs (N = 32)

Construct	1	2	3
1. Instructor Perceptions	—	.68**	.42*
2. Learner Impact		—	.50**
3. Challenges/Barriers			—

(Note. *p < .05, *p < .01.)

Regression analysis clarified predictive relationships. A multiple regression with Learner Impact as the dependent variable and Instructor Perceptions and Challenges/Barriers as predictors explained 52% of the variance ($R^2 = .52$, $F(2,29) = 15.8$, $p < .001$). Instructor Perceptions was the strongest predictor ($\beta = .61$, $p < .001$), while Challenges/Barriers had a significant negative effect ($\beta = -.28$, $p < .05$). These findings suggest that positive instructor perceptions of AI strongly influence their views of learner benefits, but perceived barriers diminish this effect.

Table 5: Regression Analysis Predicting Learner Impact (N = 32)

Predictor	β	t	p
Instructor Perceptions	0.61	4.85	< .001
Challenges/Barriers	−.28	−2.15	0.040

Model summary: $R^2 = .52$, $F(2,29) = 15.8$, $p < .001$.

Findings

Drawing on the established reliability and the statistical relationships found in the data analysis, and as the following subsections outline, the empirical findings were organized in line with the three guiding research questions and were manifested in terms of instructors ' perceptions of AI integration, its impact on learners, and the challenges influencing its adoption.

Instructor Perceptions of AI Integration: Survey results indicated that instructors were highly confident in their ability to incorporate AI tools into their teaching methods.

Agreement levels across the five related survey items consistently surpassed 90%, with mean scores of M = 4.40 and SD = 0.55. Instructors highlighted that AI applications improved teaching effectiveness, streamlined lesson planning and assessment, and could function as valuable "co-teachers." These findings are consistent with prior research, for example, Vera (2023) and Kohnke et al. (2023), which emphasizes the crucial role of teacher competence and digital literacy in realizing AI's educational potential. The strong consensus suggests that instructors not only see AI's benefits but also feel equipped to utilize it effectively in their classrooms, supporting the null hypothesis that tertiary-level EFL instructors hold positive views toward AI integration.

Impact on Learners 'Performance, Motivation, and Collaboration: Responses to items assessing learner outcomes showed the highest agreement, with mean scores of M = 4.45, SD = 0.50, and agreement rates ranging from 91% to 94%. Instructors indicated that AI tools enhanced students 'academic performance, increased motivation, and encouraged collaborative engagement. They also observed that AI-generated feedback improved language skills and reduced anxiety, which in turn boosted learners 'confidence. These results align with previous research (e.g., Elsayed et al., 2024; Octavio et al., 2024) emphasizing AI's positive impact on learner autonomy and engagement. Regression analysis revealed that instructor perceptions were the strongest predictor of perceived learner impact ($\beta = .61$, $p < .001$), indicating that positive teacher attitudes toward AI directly benefit students. This highlights the crucial role of instructors as facilitators of technology, with their confidence and willingness to adopt AI significantly influencing learner outcomes.

Challenges and Barriers to AI Adoption: Although the overall agreement remained high with M = 4.30 and SD = 0.60, instructors identified several barriers to effective AI integration. These included technical difficulties, inadequate institutional support, limited training, ethical issues, and concerns about students becoming overly dependent on AI. Agreement with these points was slightly lower, with 88–91%, indicating that while instructors recognize the challenges, they do not dismiss AI entirely. Correlation analyses showed moderate links between perceived barriers and both instructor perceptions, with $r = .42$, $p < .05$, and impact on learners, $r = .50$, and $p < .01$, suggesting that barriers temper instructors 'otherwise positive attitudes. This supports warnings in the literature, as exemplified in Vera (2023) and Alshumaimeri & Alshememry (2023), about the need for structured professional development, clear ethical guidelines, and robust institutional support. Additionally, regression analysis found that barriers significantly reduced the positive impact on learners with $\beta = -.28$, and $p < .05$, stressing the need to address these issues to maintain positive outcomes.

Discussion

The findings confirm the strength of the null hypothesis, with a vast majority of instructors, accounting for 92%, viewing AI integration positively. However, the presence of neutral and

dissenting responses emphasizes the importance of considering the alternative hypothesis, reminding us that challenges still exist. The discussion underscores that successful AI implementation in tertiary EFL environments requires more than just technological advances; it also depends on teacher proficiency, institutional backing, and robust ethical measures. Instructors 'confidence and positive attitudes are essential for student achievement, but inadequate training or resources may limit AI's benefits. These insights support existing literature, which urges universities to prioritize professional development, set clear ethical standards, and invest in sustainable infrastructure so that AI serves to enhance rather than impede language education.

On the other hand, the results clearly address the study's three research questions. First, instructors overwhelmingly view AI integration positively, expressing confidence in its educational benefits and supporting the null hypothesis of favorable perceptions. Second, consistent use of AI tools was linked to improvements in learner performance, motivation, and collaboration, with instructor attitudes being the strongest predictor of these benefits. Third, although instructors acknowledged challenges such as technical issues, limited support, and ethical concerns, these factors did not overshadow their overall positive outlook on AI. Instead, they highlight the need for enhanced professional development and institutional investment to support effective implementation. Overall, the findings emphasize that successful AI integration in tertiary-level EFL classrooms depends on instructor enthusiasm and adequate structural support to transform positive perceptions into tangible learning gains.

Limitations of the Methodology

While the research design and survey instrument offered useful insights into instructors ' perceptions of AI integration in tertiary-level EFL classrooms, several limitations emerged. The analyzed sample was small—only 32 out of 124 questionnaires—limiting statistical power and possibly not representing all instructor experiences. Reliance on self-reported data may have introduced bias, as responses could reflect institutional norms or personal beliefs rather than actual classroom practices. Additionally, as a descriptive, quantitative survey, the study captured attitudes and perceptions at a single point in time without establishing causality or documenting changes over time. Finally, the findings are context-specific and may not generalize to other regions due to differences in infrastructure, culture, or AI literacy. These limitations indicate the value of further research using larger, more diverse samples and mixed or longitudinal methods to better understand AI's role in language education.

Future Research Directions

Given the study's limitations, several avenues for future research on AI in tertiary-level EFL classrooms are recommended. Expanding sample sizes and including participants from

diverse institutions and regions could enhance generalizability. Employing mixed methods—such as combining surveys with interviews or classroom observations—may provide a richer understanding of practical experiences and challenges. Longitudinal research would help track evolving perceptions, student outcomes, and institutional readiness, overcoming the constraints of cross-sectional designs. Further investigation into specific AI tools, like chatbots, adaptive feedback, and speech recognition, is needed to determine which technologies best support different language skills. Comparative studies across diverse cultural and institutional contexts could also shed light on how factors such as infrastructure, training, and ethics shape AI's effectiveness. Such research will better inform policy, staff development, and innovations in AI-supported language instruction.

Conclusion

This study demonstrates that integrating artificial intelligence into tertiary-level EFL classrooms is both promising and complex. While instructors generally have a positive perception of AI, several significant challenges remain. With 92% of participants supporting the null hypothesis, the findings indicate that instructors view AI as a valuable teaching tool that enhances effectiveness, motivates students, and fosters collaboration. These results align with previous research indicating that, when thoughtfully integrated, AI applications can improve lesson planning, assessment, and learner engagement (Octavio, González Argüello, & Pujolà, 2024; Elsayed et al., 2024). However, concerns about technical limitations, inadequate training, and ethical considerations underscore the need for institutional support and professional development, as highlighted by Vera (2023) and Alshumaimeri & Alshememry (2023). Ultimately, successful AI integration depends on technological innovation, instructor preparedness and confidence, learner readiness, and institutional commitment to adequate resources and ethical guidelines.

The study recommends that institutions focus on structured professional development, equipping instructors with essential technical skills and ethical guidance for AI use. It emphasizes the need for resource allocation towards improved infrastructure and technical support, especially to resolve connectivity and access issues. Establishing clear policies and guidelines is crucial to address privacy, bias, and overdependence, ensuring that AI enhances rather than replaces human teaching. On the classroom level, teachers should utilize AI as a co-teacher for tasks like lesson planning, feedback, and student engagement, while maintaining their own pedagogical judgment. Reflecting Al-Awawdeh et al. (2023), the study suggests that future research should involve more diverse samples to improve generalizability and longitudinal studies to explore the long-term effects of AI on learner motivation, independence, and critical thinking. Comparisons between AI-supported and traditional teaching methods are also important to clarify the benefits of AI. Consistent with Jiang (2022), employing mixed-methods research—including quantitative and qualitative approaches—is recommended to deepen understanding of both instructor and student experiences.

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