The Shifting Role of the Teacher: A Systematic Review of Teacher Perceptions and Practices with AI in the EFL Classroom

Dedi Aco[1*], Ming-Chou Liu[2], Harmita Sari[3]

[1*,2]Department of Education and Human Potential Development, National Dong Hwa University (NDHU), Hualien City, Taiwan

[3]Master of Pedagogy Department, Muhammadiyah University of Palopo, Indonesia

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ABSTRACT

This research offers an in-depth examination of the role of Artificial Intelligence (AI) in English as a Foreign Language (EFL) classroom, with a particular emphasis on teachers' perspectives and the integration of technology. It tackles an expanding research gap concerning educators' perceptions and adaptations to AI as it becomes increasingly prevalent in global education. A systematic review of the literature and a bibliometric analysis were performed using the Scopus database on October 13, 2025, resulting in the identification of 180 records. After applying specific inclusion and exclusion criteria, 41 peer-reviewed journal articles were selected for comprehensive analysis. The analysis, facilitated by VOSviewer, highlighted significant research trends, key institutions, and thematic focal points across various educational levels. The findings indicate a significant increase in publications from 2023 to 2025, with Saudi Arabia and Vietnam identified as prominent contributors. Educators predominantly perceive artificial intelligence as a beneficial tool for personalized learning, efficient lesson planning, and formative feedback. However, concerns remain regarding ethical considerations, reliability, and pedagogical readiness. These trends reflect specific aspects of teacher perception, including technological confidence, instructional adaptability, and perceived institutional support. This review is distinguished by its integration of bibliometric mapping with thematic analysis of studies on teacher perceptions, thereby illuminating both the technological and pedagogical aspects of AI integration. The paper concludes by underscoring the implications for professional development and policy, advocating for evidence-based training frameworks that equip EFL educators for responsible and effective AI adoption.

Corresponding Author:
Dedi Aco
Department of Education and Human Potential Development,
National Dong Hwa University (NDHU),
National Dong Hwa University: Hualien City, Taiwan, TW
Email: *811288117@gms.ndhu.edu.tw*

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1. Introduction

Artificial Intelligence (AI) is a complex concept that encompasses computer systems designed to perform tasks that typically require human cognition. Fundamentally, AI involves mimicking human intelligence to perform activities such as learning, problem solving, and decision making (Metwally & Bin-Hady, 2025; Mohammed Ahmed Mudawy, 2024). These systems are crafted to undertake human-like functions, including adapting, synthesising, and self-correcting information, which enables them to manage intricate data processing (Arefian et al., 2024). In the realm of language learning and teaching, AI's cognitive strengths are particularly significant: intelligent tutoring systems, automated writing feedback tools, and conversational chatbots now support learners in practicing language skills, obtaining adaptive feedback, and customizing their learning paths (Maity & Deroy, 2024). For EFL teachers, these tools present opportunities to improve lesson efficiency and student engagement while also introducing new pedagogical and ethical challenges (Adel et al. 2024). Essentially, AI enables digital machines or computer-controlled agents to perform a broad range of actions that reflect human intellect, transforming not only cognitive tasks, but also communication and instructional practices in education (Harakchiyska, 2025; Mudawy, 2024).

Beyond its basic definition, Artificial Intelligence (AI) is characterised by its swift development and wide-ranging interdisciplinarity (Jiang, 2024). Over the last 60 years, AI has evolved from predictive models to advanced generative tools, such as ChatGPT and DALL-E, which can create new text, images, and even code (Harakchiyska, 2025). This progress is the result of a multidisciplinary blend of computer science, linguistics, psychology, and philosophy, examining the convergence of cognitive and computational sciences (Khattak et al., 2025; Mudawy, 2024). Consequently, AI has emerged as an innovative instrument with the potential to transform various sectors, including education. In the realm of EFL teaching and learning, AI-powered systems such as intelligent tutoring platforms, automated writing evaluators, and adaptive vocabulary trainers are increasingly utilised to facilitate personalised learning, language assessment, and formative feedback (Meylani 2024). These tools enable educators to track learner progress more accurately, tailor instruction to students' proficiency levels, and promote independent learning through real-time feedback (Cabrera-Solano et al., 2024; Metwally & Bin-Hady, 2025). Collectively, these advancements demonstrate how AI not only boosts instructional efficiency but also transforms the way language acquisition is supported in modern classrooms (Ifraheem et al., 2024).

Building on this groundwork, the analysis underscores the dual importance of teacher perceptions from both practical and theoretical perspectives. Investigations into the perspectives of ESL and EFL educators on AI suggest that it can enhance student involvement, support adaptive teaching practices, and alleviate teachers' workloads (Abou Assali, 2025). While these insights often resonate with earlier studies, they also reveal differences shaped by educators' academic qualifications and teaching settings. This diversity highlights the necessity of context-aware strategies that assist teachers in effectively incorporating AI into their teaching practices.

Numerous studies have presented new methodological strategies that broaden the scope of how AI-related topics are examined in language education. For example, the implementation of Assistive Technology (AT) and sophisticated analytics tools provide fresh perspectives on analysing interactions between teachers and learners (Alsalem, 2024). These advancements highlight the methodological evolution of the field beyond conventional qualitative or survey-based methods, setting the stage for more data-centric and mixed-methods

approaches. On a larger scale, research places teachers' practices within the context of institutional and policy frameworks, enhancing the understanding of AI adoption patterns (Zaimoğlu & Dağtaş, 2025). Additionally, investigations into AI-based conversational agents (AICs) for language learning offer practical insights that can guide the creation of more engaging and pedagogically appropriate tools for future classrooms (Belda-Medina & Kokošková, 2023). Together, these implications reinforce the connection between theoretical knowledge and classroom practice, boosting the field's ability to utilise AI in a responsible and effective manner.

To expand and improve research results, future studies should specifically address the gaps highlighted in this review, especially the limited investigation into how EFL teachers incorporate AI into teaching, evaluation, and professional growth. Utilising triangulated research designs that combine surveys, classroom observations, and experimental methods can reduce bias in self-reported data and enhance the validity of the findings (Lap, 2025). Further exploration of AI tools that aid academic writing and feedback, such as grammar checkers, paraphrasing systems, and citation managers, would provide a deeper understanding of teachers' instructional methods and students' writing progress. Additionally, examining less explored areas of EFL pedagogy, such as speaking assessment, formative feedback, and teacher training in AI ethics, could offer valuable insights for both policymaking and classroom application (Zou et al., 2024). Futureresearch should aim to enhance methodological precision while connecting results to theoretical frameworks concerning teacher preparedness and technology acceptance. The existing literature highlights the importance of interpreting outcomes within both theoretical and practical frameworks to guide evidence-based professional development and foster innovation in EFL education (Hieu & Thao, 2024).

After examining the articles,numerous insights emerged regarding the functions,advantages,and constraints of Artificial Intelligence (AI) within academic and educational settings. The literature generally depicts AI as a potent tool for tackling current issues and boosting efficiency in both research and teaching (Hazaymeh et al.,2024). In language learning, AI applications have demonstrated the ability to bridge significant knowledge gaps, offer adaptive feedback, and increase learner engagement. Similarly, AI tools aid researchers by summarising articles, providing feedback during peer review, and assisting authors in refining their manuscripts (Lap, 2025). Early innovations, such as the Intelligent Essay Assessor (IEA), initiated automated essay grading and have since developed into sophisticated natural language processing systems that support teachers in assessment (Alsalem, 2024; Alkhateeb et al., 2025).

Moreover, not all studies convey complete optimism. Some researchers have warned that excessive dependence on AI could undermine critical thinking, reduce originality, or perpetuate biases inherent in algorithms (Yılmaz & Eryılmaz, 2024). Others have pointed out ethical and educational issues, emphasising that AI tools might produce errors, misinterpret student input, or oversimplize intricate linguistic subtleties (Ahmed & Bin-Hady, 2024). These differing viewpoints indicate that although AI offers distinct benefits, its application in educational and research contexts should be accompanied by adequate training, ethical consciousness, and regulatory policies to ensure responsible use (Khattak et al., 2025). Consequently, higher education institutions are advised to be receptive yet discerning regarding AI integration, striking a balance between innovation and informed supervision.

Although AI offers numerous benefits, it also presents a range of challenges and limitations. Issues related to accuracy and logic remain, as even advanced AI systems can produce or accept erroneous information, which diminishes their dependability for scoring and providing feedback in certain contexts (Alsalem 2024). Additionally, the simplicity of generating text with AI tools raises significant concerns about plagiarism and academic integrity, as students may be inclined to submit AI-generated content as their own work

(Almahboob, 2025).

Educators and institutions can adopt various strategies to mitigate these risks. First, teachers can focus on imparting AI literacy and academic integrity, instructing students on the responsible use of AI tools for activities such as brainstorming, language correction, or citation help, rather than for generating content. Second, AI detection and originality tools can be used alongside manual reviews to spot unoriginal texts. Third, incorporating reflective writing assignments and process-based evaluations, such as drafts, outlines, or oral reflections, can promote genuine student involvement and lessen reliance on AI-generated content. Finally, providing teachers with continuous professional development on AI's limitations can improve their ability to verify information accuracy and demonstrate ethical tool usage in the classroom. Therefore, AI should be seen as a supportive addition rather than a substitute for traditional teaching, particularly in language learning settings where critical thinking, creativity, and communicative competence are key outcomes (Hazaymeh et al. 2024).

Recent research has highlighted notable deficiencies and exciting opportunities for future exploration. There is still a clear lack of thorough studies on the use of AI in English as a Foreign Language (EFL) context, especially regarding its instructional methods and ethical considerations (Hazaymeh et al., 2024). It is crucial to address these deficiencies to create effective and contextually appropriate AI implementation guidelines for various educational settings. This review addresses this gap by systematically compiling teachers' views and teaching experiences related to the integration of AI in EFL settings. By examining educators' perspectives on the advantages, obstacles, and classroom uses of AI, this study provides evidence-based insights that can guide teacher training, curriculum development, and institutional policies. In conclusion, the literature reviewed highlights AI's potential to significantly improve educational and research endeavours by increasing efficiency, providing assistance, and validating previous findings. However, it also warns against overreliance on AI because of its inherent limitations, such as accuracy issues, ethical concerns like plagiarism, and the ongoing necessity for human judgment. Consequently, AI should be integrated in a thoughtful and ethical manner, acting as a supplement rather than a substitute for the human aspects of teaching and learning.

This study comprehensively reviews the existing literature on teachers' perceptions and applications of Artificial Intelligence (AI) in English as a Foreign Language (EFL) classrooms. This study addresses previously identified research gaps, such as the limited empirical mapping of AI studies in EFL, inadequate investigation of teacher perceptions, and absence of practical guidance for teacher development. This study was guided by three research questions. RQ1: What are the key characteristics of empirical research on AI in the EFL classroom, considering its distribution across the analysedation years, countries, subject areas, affiliations, document types, educational levels, and employed methodologies? This question addresses the first gap, aiming to provide a comprehensive overview of the current research landscape and trends in the Amethodologies employed to date. RQ2: What are the dominant perceptions and pedagogical practices reported in the literature on EFL teachers' use of AI? This question addresses the second gap, focusing on teachers' perspectives and classroom applications, an area previously underexplored despite AI's growing educational role. RQ3: Based on these findings, what are the primary implications for the evolving role of the EFL teacher, and what recommendations can be made for their professional development? This question targets the third gap by translating findings into actionable insights for teacher training, professional development, and ethical integration of AI in language education.

This study compiles insights from 41 articles sourced from the Scopus database, covering publications up to 13 October 2025 and concentrating on teachers' views and methods concerning AI in EFL classrooms. The analysis examined several key aspects to outline the research fields. After all selection phases were completed, studies that satisfied the eligibility

requirements were included in the final dataset. The systematic literature review ultimately included 41 articles, as recorded in .RIS and .CSV file formats.

The .RIS files were used to transfer citation data via Zotero.The CSV files were processed using VOSviewer, a bibliometric mapping tool that enables the visual analysis of co-authorship networks, keyword co-occurrences, and thematic clusters. Using VOSviewer was particularly relevant to the study's objectives, as it provided a visual representation of how AI-related research in EFL education has evolved over time, highlighting research hotspots, collaboration patterns, and emerging pedagogical themes. This visual analysis complemented the qualitative synthesis, offering both macro- and micro-level insights into how teachers' perceptions and practices have been studied across contexts. We observed clear trends in publication growth in recent years, reflecting the growing academic interest in this topic. The most recurrent methodologies across the reviewed literature were surveys, case studies, and content analyses, providing a diverse and coherent picture of AI integration in EFL teaching. Collectively, this analysis offers a comprehensive overview of teachers' perceptions and the pedagogical applications of AI in language education (Arefian et al., 2024; Hieu & Thao, 2024; Williyan, 2024; Minnillo, 2024; Hazaymeh, 2024; Liu, 2025; Balla, 2025).

2. Method

The study selection process was carried out systematically by following the flow of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, as shown in figure 1. This methodology ensures that the processes of identification, screening, and selection of articles are conducted transparently and can be replicated (Page, McKenzie, et al., 2021). The process was divided into four stages: identification, screening, eligibility, and inclusion of studies.

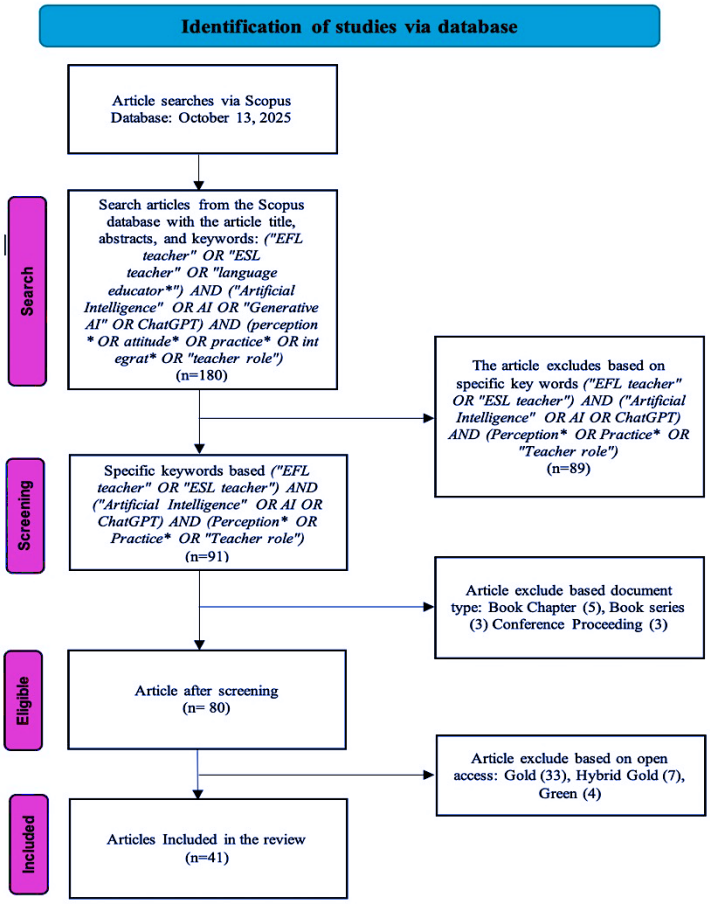


Figure 1. Systematic Literature Review information flow using PRISMA

The initial stage involved identifying studies through a literature search in the Scopus academic database. The search was conducted on October 13, 2025. Comprehensive keywords were used to screen articles based on their titles, abstracts, and relevant keywords. The combination of search strings used was *TITLE-ABS-KEY (("EFL teacher" OR "ESL teacher" OR "language teacher*") AND ("Artificial Intelligence" OR AI OR "Generative AI" OR ChatGPT) AND (perception* OR attitude* OR practice* OR integrate* OR "teacher role")).* Through this initial search, 180 articles that were potentially relevant to the research topic regarding the roles, perceptions, and practices of EFL teachers in the use of artificial intelligence (AI) were identified from 2016 to 2026.

Subsequently, these 180 articles underwent a two-step screening process to exclude irrelevant studies. First, a review was conducted based on titles and abstracts using specific keywords. Through this process, 89 articles were excluded because they did not align with the research focus, leaving 91 remaining articles. Subsequently, these 91 articles were filtered based on the document type. Eight documents, consisting of five book series and three conference proceedings, were excluded because they did not meet the journal article criteria. After the screening stage, 80 articles were considered suitable for further evaluation.

At the eligibility stage, 80 articles that passed the initial screening were thoroughly evaluated through full-text reviews. This review aimed to ensure that each article met all pre-established inclusion and exclusion criteria. Based on a comprehensive assessment, several articles were excluded because of their access status, which was categorised as gold (33), hybrid gold (7), or green (4). The eligibility assessment process filtered out articles that did not fully align with the scope of this study.

After passing through all the rigorous selection stages, studies that met all eligibility criteria were included in the final analysis. The total number of articles that successfully passed the entire process and were included in this systematic literature review was 41, as documented in CSV file formats. The RIS file was used to transfer citation data using the Zotero application. A CSV file was used to store and manage data in a table format, which was used in the VOSviewer application. These articles formed the basis for the qualitative analysis conducted in this study.

This document was then further analyzed in this study to answer **RQ1**: What are the key characteristics of empirical research on AI in the EFL classroom, considering its distribution across publication years, countries, subject areas, affiliations, document types, educational levels, and employed methodologies? **RQ2**: What are the dominant perceptions and pedagogical practices reported in the literature on EFL teachers' use of AI? **RQ3**: Based on these findings, what are the primary implications for the evolving role of the EFL teacher, and what recommendations can be made for their professional development?

3. Result and Discussion

The analysis of 41 selected articles through bibliometric and thematic methods highlighted significant patterns in AI-related research in EFL settings. Using VOSviewer, a tool for bibliometric mapping, we depicted networks of co-authorship, keyword co-occurrences, and emerging thematic clusters. This method was particularly pertinent to the study's goals, as it enabled us to visually pinpoint key areas of focus, collaboration trends, and research hotspots in AI-enhanced language education. From this analysis, three primary trends emerged: (1) a notable rise in publications post-2023; (2) a geographical concentration of research in Asia and the Middle East, especially in Saudi Arabia and Vietnam; and (3) an increasing focus on teachers' perceptions, classroom practices, and AI-driven assessment tools (Arefian et al., 2024; Hieu & Thao, 2024; Williyan, 2024; Minnillo, 2024; Hazaymeh, 2024; Liu, 2025; Balla, 2025).

The bibliometric results go beyond merely describing the field; they lay the groundwork for understanding how new research trends are translated into educational practices. By

identifying where studies are geographically, thematically, and methodologically focused, we gain insight into the environments in which AI integration is progressing most swiftly. Building on these findings, the following section explores the connection between these research trends and classroom practices, as well as teacher development, illustrating how empirical patterns found in the literature can guide practical strategies for effective AI use in EFL education.

3.1. Translating Research Trends into Classroom Practice

The observed trends have significant consequences for EFL teaching practices and professional growth. Teachers' generally favourable views on the role of AI in lesson planning, providing feedback, and enhancing student involvement suggest a strong potential for institutional training programs that enhance AI literacy, pedagogical flexibility, and ethical understanding. For instance, professional development could feature workshops on incorporating AI-driven writing feedback tools, chatbots for practising conversations, and adaptive platforms for formative assessment. These findings emphasise the necessity of context-sensitive strategies that consider teachers' technological preparedness and institutional support systems.

3.2. Methodological and Conceptual Development

The review highlighted a growing variety of methodologies, with research utilising mixed methods, surveys, and qualitative case studies to investigate AI integration. Fewer studies employed Assistive Technology (AT) and learning analytics for data interpretation, indicating a gradual shift towards evidence-based enquiry. VOSviewer's visual bibliometric analysis supported these findings by identifying underexplored research intersections, such as AI's influence on teacher identity formation and ethical classroom management, suggesting avenues for further exploration.

3.3. Toward Conceptual Forward-Looking Research

Although there has been progress, the literature remains fragmented, with a scarcity of longitudinal evidence and a limited number of cross-institutional studies. The development of ethical and pedagogical frameworks for AI use in EFL is still in its infancy, and research frequently does not align with teacher training outcomes. To move the field forward, future research should utilise triangulated research designs that integrate self-reported data with classroom observations and performance analytics. Examine AI-driven professional development programs for teachers to evaluate how educators can develop digital and ethical skills. The influence of AI on curriculum design, especially in areas such as formative assessment, writing support, and learner autonomy, should be investigated.

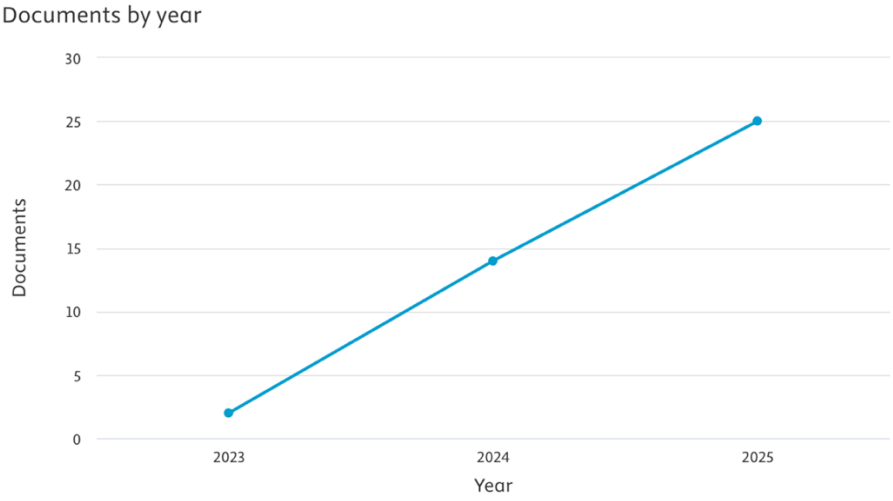
In summary, although existing studies highlight AI's potential to boost teaching effectiveness and tailor learning experiences, there is a pressing need to close the gap between perception and implementation. By connecting bibliometric patterns with practical teaching methods, this study offers a forward-thinking perspective on how AI can be responsibly and effectively incorporated into EFL education.

Building on these theoretical insights, the subsequent section reveals the empirical results that respond to the study's research questions. Each question aligns with a distinct aspect of the investigation, ranging from the general features of AI-related research in EFL settings to educators' perceptions, teaching methods, and implications for professional growth. Collectively, these analyses offer a thorough understanding of how AI has been explored and applied in EFL education and how these findings help shape future teaching and research strategies.

RQ1: *What are the key characteristics of empirical research on AI in EFL classrooms, considering its distribution across publication years, countries, subject areas, affiliations, document types, educational levels, and employed methodologies?*

An analysis of data from the Scopus database revealed a rising trend in research

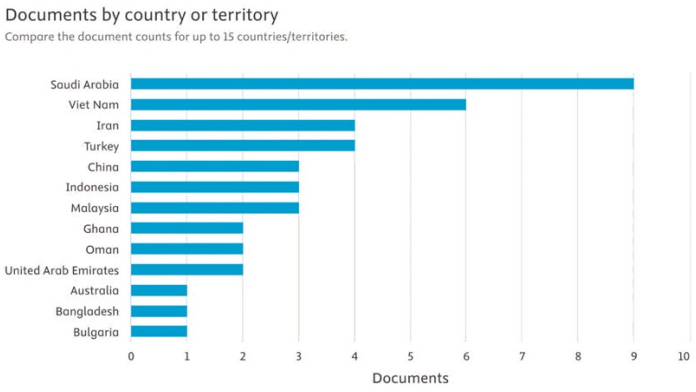
focused on the perceptions and practices of AI use in EFL classrooms in recent years (Zhang & Umeanowai, 2024). This increase in the number of publications reflects scholars' growing interest in exploring how AI can be effectively incorporated into language teaching (Baskara 2023). This trend underscores the pressing need for thorough longitudinal studies to examine the long-term impact of AI integration on EFL teachers' instructional methods and student learning outcomes (Amin, 2023). Consequently, it is essential to continue research to assess the most effective strategies for incorporating AI tools into the EFL curriculum to enhance overall educational outcomes in the future.



Source: Scopus database

Figure 2. Number of Document publication by year

Figure 2 illustrates a notable rise in research interest over the last three years, as evidenced by the analysis of annual publication trends of the included articles. This pattern highlights the increasing emphasis on artificial intelligence (AI) in EFL classrooms. In 2023, only two articles on this topic were published. However, by the following year, there was a marked increase, with the number of publications soaring to 14 by 2024, reflecting the academic community's growing engagement in this field. This upward trajectory is expected to peak in 2025. The most recent data from Scopus show 25 relevant articles, marking this year as the most prolific year. The dramatic increase from two articles in 2023 to 25 in 2025 clearly indicates that research on teachers' roles, perceptions, and practices concerning AI is a highly active and pertinent field of study.



Source: Scopus databas

Figure 3. Document by country/ territory

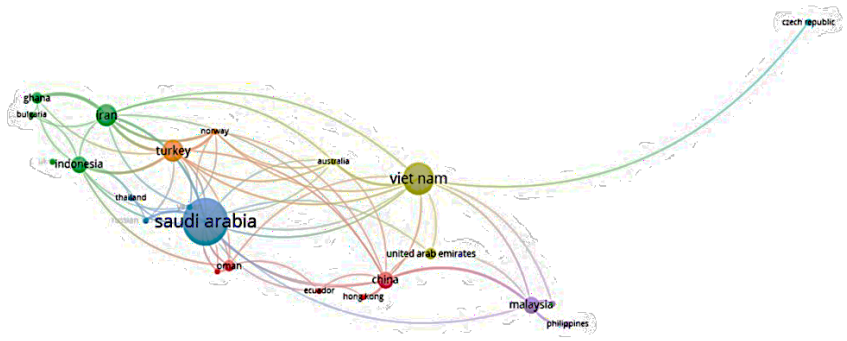
A thorough examination of the geographical spread of the 41 articles revealed a noticeable concentration of research activities in certain countries, especially from 2023 onwards. This focus not only shows active participation by specific nations but also highlights a strategic interest in furthering the study of AI in English as a Foreign Language (EFL) classrooms. Simultaneously, the data indicate widespread global interest in the subject, as depicted in figure 2, illustrating that academic dialogue extends beyond regional confines and is steadily gaining momentum across different continents.

Saudi Arabia is at the forefront of research, producing nine publications and underscoring its role as a prominent leader in this academic field. This suggests strong institutional backing and a burgeoning community of researchers dedicated to applying AI in language education in Korea. Vietnam is not far behind, with six publications, highlighting the significant role of Asia, particularly East and Southeast Asia, as vibrant centres for research on AI integration in EFL learning settings. The considerable contributions from these nations indicate not only scholarly interest but also a possible alignment between educational strategies and technological advancement.

Several other countries were also involved. Iran and Turkey produced four publications, reflecting strong regional participation and rapidly growing academic interest in AI-supported language education. China, Indonesia, and Malaysia each contributed three publications, underscoring the notion that the Asian region is collectively spearheading innovation and research in this field. Meanwhile, countries such as Ghana, Oman, and the United Arab Emirates, although contributing fewer studies (two each), indicated an increasing desire to engage in the global conversation, potentially marking the beginning of more extensive future participation.

Moreover, the broader dissemination of research is highlighted by the fact that each of the three countries contributed to a single study. This group comprised Australia, Bangladesh, and Bulgaria. The presence of one study from each of these nations indicates that while research is concentrated in certain areas, the topic holds significant global interest and importance to researchers in diverse countries.

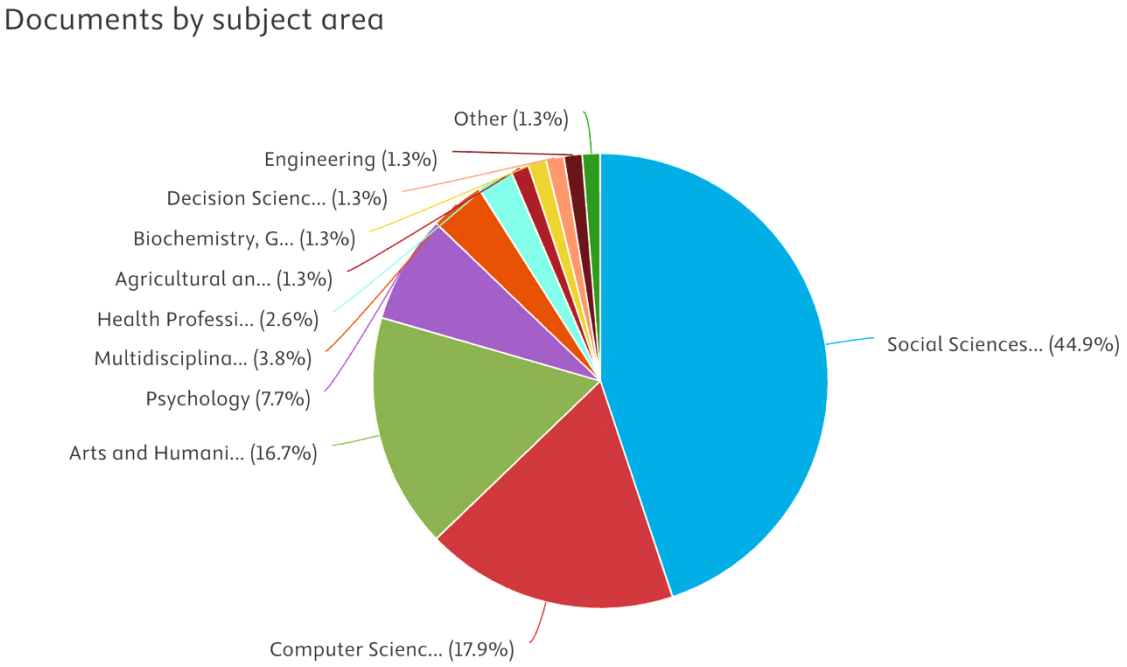
Overall, these results suggest that although certain Asian nations are particularly active in research, the exploration of AI in EFL classrooms is becoming increasingly global. This trend highlights the broad acknowledgement of AI's transformative role in language education and the rise of new opportunities for international collaboration and knowledge sharing. Researchers have also used VOSviewer to examine the connections between countries involved in this research field. This analysis is essential for developing a systematic and forward-looking research agenda in this field. The VOSviewer results revealed links between countries studying AI in the EFL classroom. (See Figure 4).



Source: output VOSviewer software

Figure 4. Network country visualization

According to the density visualisation from VOSviewer, the geographic spread of studies from 2023 onwards revealed a distinct concentration in certain countries. Map analysis highlights the most prominent research hubs in the Middle East, with Saudi Arabia exhibiting the highest density (depicted in red and orange). This primary cluster also encompasses research activities in the United Arab Emirates and Oman. Notable secondary hotspots were evident in Vietnam, marked by yellow and green colours, indicating a significant amount of research. In addition to these two main centres, countries such as Turkey and Iran have emerged as regions with relatively dense research activities (Green). Other nations, such as China, Indonesia, Malaysia, Pakistan, Ghana, and Brazil, appear on the map with lower densities, suggesting that this topic has garnered global interest, even though the primary centres of activity are concentrated in a few regions.



Source: Scopus database

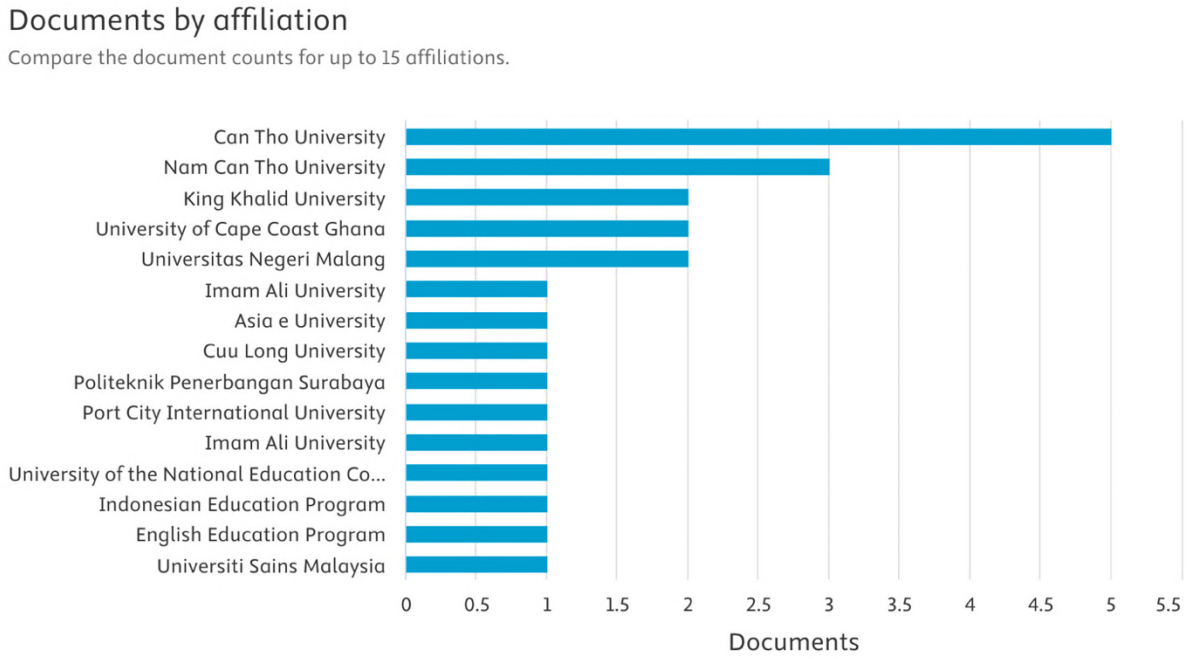
Figure 5. Document by subject Area

After reviewing 41 articles, it became evident that this research spanned multiple academic fields, highlighting its interdisciplinary approach. The Social Sciences field was particularly prominent, representing 44.9% of the total articles. This prevalence is logical, considering that research primarily focuses on education, pedagogy, and the dynamics of human interaction in language learning.

Computer Science held second place, contributing 17.9% of the total articles. This substantial share underscores the technological aspect of the research topic, particularly artificial intelligence (AI), and emphasises the significance of this study's technical dimension. Additionally, the arts and humanities field represented 16.7%, which is particularly pertinent because this study focuses on English language learning, a topic deeply rooted in the humanities.

Psychology accounted for 7.7% of all contributions. Other disciplines, including agriculture and biological sciences, biochemistry, genetics and molecular biology, decision sciences, and engineering, contributed 1.3% each. This overall distribution highlights that

research on AI integration in EFL classrooms is a multidisciplinary endeavour deeply rooted at the crossroads of the social sciences, computer science, and humanities.



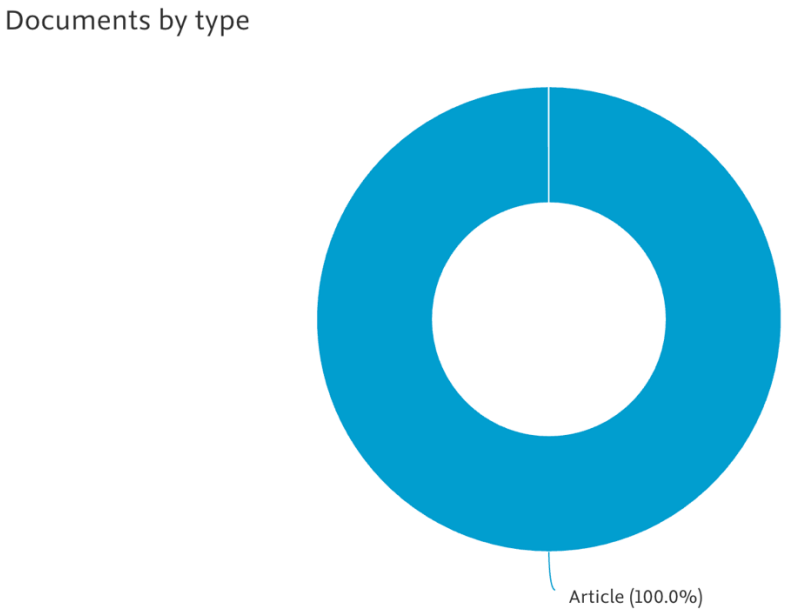
Source: Scopus database

Figure 6. Documents by affiliation

Further analysis of the authors' affiliations in the 41 included articles identified the most productive academic institutions in this field, as illustrated in the figure. Specifically, two leading Vietnamese universities emerged as the most productive institutions, with Can Tho University contributing five publications and Nam Can Tho University contributing three publications, positioning them as key centres in the research landscape.

The next three positions were held by King Khalid University, the University of Cape Coast Ghana, and Universitas Negeri Malang, each of which contributed two publications each. The presence of these institutions highlights their significant contributions to shaping research discourse on AI in EFL classrooms.

In addition, a large number of institutions were actively involved, with each contributing one publication. This group includes Imam Ali University, Asia e University, Cuu Long University, Politeknik Penerbangan Surabaya, Port City International University, Imam Ali University, University of the National Education Commission, Indonesia Education Program, English Education Program, and University Sains Malaysia. This distribution indicates that, although some institutions lead in terms of numbers, there is a broad and active research base spread across various universities in the Middle East and Asia as well.



Source: Scopus database

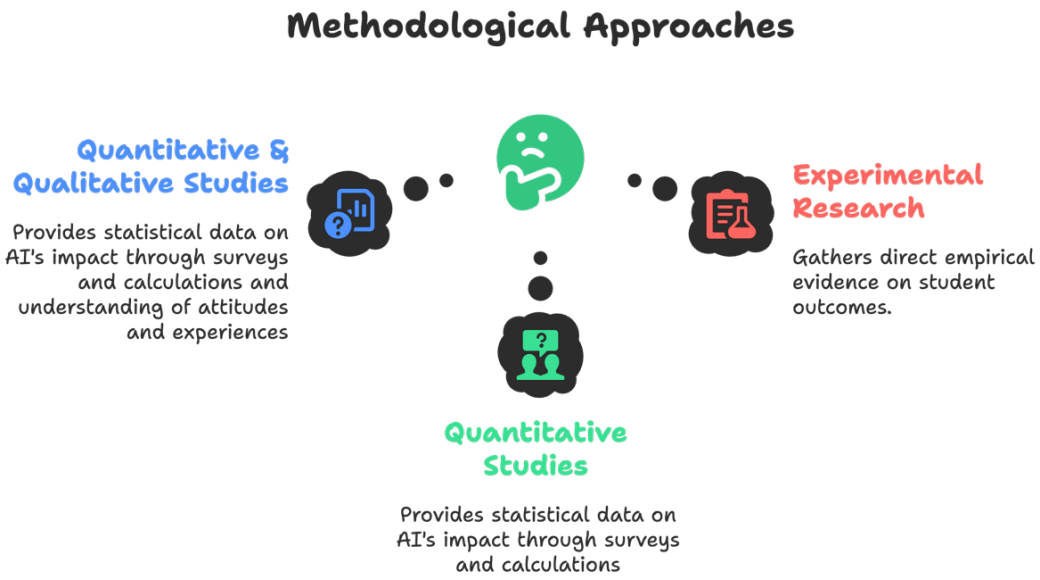
Figure 7. Document by type

Based on an analysis of the types of sources from all documents included in this systematic literature review, the findings confirmed the exclusive use of scientific articles in the final analysis. As illustrated in Figure 6, 100% of the publications (41 documents) were journal articles. This selection ensured that the foundation of this study was built entirely on research that underwent peer review. Notably, no documents from other sources, such as book series or other publication types (0%), were included in the final dataset, further reinforcing the rigorous scope of this review.

This study explored different educational levels and roles, focusing on both students and teachers in various learning contexts. Students frequently appear in discussions, particularly in connection with their learning processes, writing tasks, and the use of tools such as ChatGPT to develop questions and interpretations of their work. The study also examined English language teachers' knowledge of and perceptions of educational technologies. Early childhood learning was included in the literature review, reflecting broader considerations of the educational spectrum. One of the authors was engaged in doctoral research in the context of higher education (Alsalem, 2024; Belda-Medina & Kokošková, 2023; Almahboob, 2025). This paper addresses educational levels ranging from early childhood and K–12 to higher education, focusing on student learning and teacher perspectives. This highlights the importance of targeted training programs that consider both the ethical dimensions of AI and the innovative pedagogical approaches needed for its meaningful use in EFL teaching (Metwally & Bin-Hady, 2025).

Researchers have used various methodological approaches to understand these complex dynamics. Empirical research on Artificial Intelligence (AI) in English as a Foreign Language (EFL) classrooms exhibits several key characteristics, particularly concerning the methodologies employed to assess its impact and integration. Research in this area frequently employs both qualitative and quantitative methodologies to evaluate AI's influence on language learning outcomes and the attitudes of both teachers and students (Hazaymeh et al., 2024). A common quantitative approach involves gathering data through surveys, such as those conducted with 46 EFL instructors to understand their reliance on AI applications for task

facilitation, instructional strategy enhancement, and personalised learning. Studies have also calculated the means and standard deviations to assess the benefits and challenges of AI use (Alkhateeb et al., 2025). (See figure 8. Methodological Approaches).



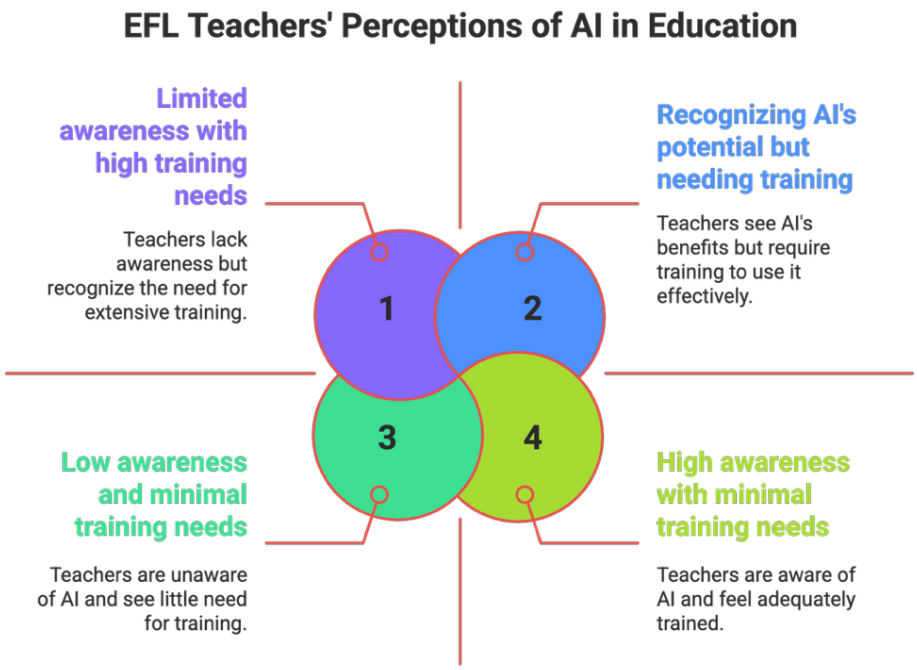
Source: Napkin

Figure 8. Methodological Approaches

RQ2: *What are the dominant perceptions and pedagogical practices reported in the literature on EFL teachers' use of AI?*

Research on EFL teachers' perceptions of AI use in learning remains limited, as most studies focus on the general opportunities and challenges of AI in education rather than the crucial role of teachers themselves (Mohammed Ahmed Mudawy, 2024). Nevertheless, some findings indicate the emergence of positive perceptions and the development of pedagogical practices. In general, EFL teachers view AI as a useful tool because it can support teaching, foster creativity, and enhance students' learning motivation. The use of AI is considered to aid in personalising learning, simplifying lesson planning, and improving teaching efficiency (Metwally and Bin-Hady, 2025). However, they are also aware that integrating AI presents challenges and requires a fundamental transformation of the learning process. Teachers' attitudes towards AI, particularly in the context of Intelligent Computer-Assisted Language Learning (ICALL), range from acceptance to scepticism. In addition, there is a clear need for more in-depth research into EFL teachers' perceptions of AI training, as this aspect has rarely been comprehensively examined (An et al., 2023). (See figure 8. EFL Teachers' Perception of AI in Education).

Both current and trainee EFL teachers tend to utilise AI tools for tasks such as content creation, language practice, and lesson design (Harakchiyska 2025). In practice, specific AI applications, such as 'Plot Generator' for writing and 'Elsa' for pronunciation, are viewed positively for their ability to support teaching and enhance student engagement (Metwally & Bin-Hady, 2025). However, teachers show more hesitation when it comes to integrating AI in English language assessment, L2 error correction, and personalised instruction (Harakchiyska, 2025). Overall, while EFL teachers generally hold positive perceptions of AI's potential to enhance various aspects of teaching and learning, there remains a need for further research into teachers' specific perceptions, training requirements, and the effective deployment of AI in classrooms to bridge the gap between potential and actual implementation (Slamet, 2024; Abou Assali, 2025; Khattak et al., 2025). (See figure 9. EFL Teachers' Perception of AI in Education).



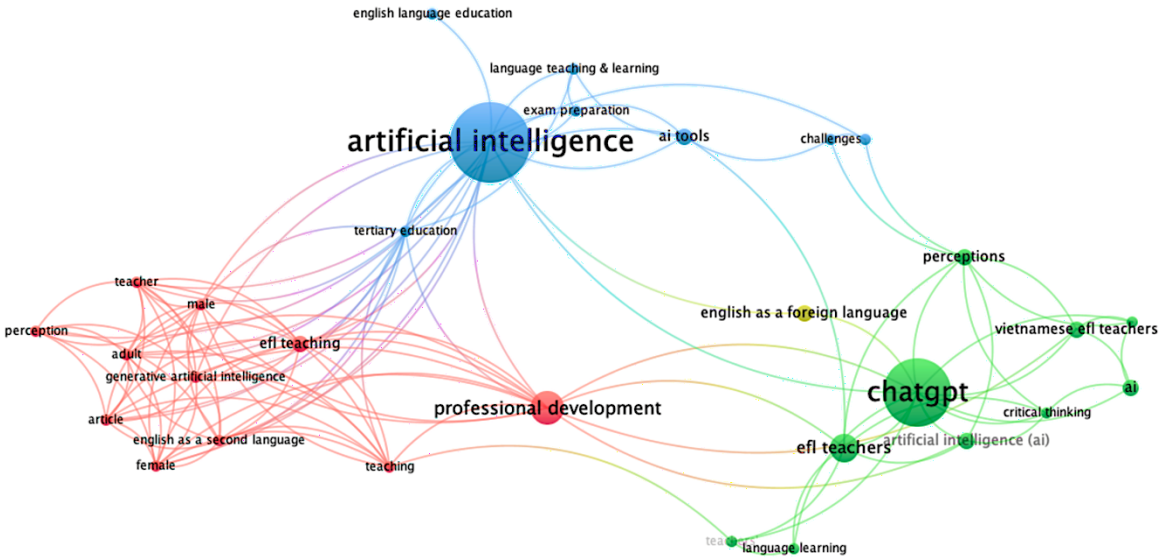
Source: Napkin

Figure 9. EFL Teachers' Perception of AI in Education

RQ3: *Based on these findings, what are the primary implications for the evolving role of the EFL teacher, and what recommendations can be made for their professional development?*

A bibliometric analysis of 41 manuscripts sourced from Scopus was conducted using the VOSviewer software to visually map the research landscape. These results offer important theoretical and practical implications for the development of AI studies in EFL teaching in the future. From a theoretical perspective, this analysis allows researchers to identify saturated topic clusters and areas that remain underexplored, thereby guiding more innovative agendas. Pragmatically, these findings provide valuable insights for education practitioners to understand the dynamics of AI's influence, which can inform evidence-based and sustainable EFL teaching practices.

From figure 10. The most frequently occurring keywords were chatgpt (25), artificial intelligence (23), adult (20), article (20), English as a second language (20), female (20), generative artificial intelligence (20), male (20), teacher (20), professional development (18), tertiary education (15), EFL teaching (13), teaching (12), EFL teachers (12), perception (9), perceptions (9), Vietnamese EFL teachers (8), artificial intelligence (AI) (7), AI tools (6), language education (6), and critical thinking (5).



Source: output VOSviewer software

Figure 10. Co-occurence frame work and representation of key terms

Table 1. Key words by authors

Rank	*Key words*	*Total link strenght*
1	Chat GPT	25
2	artificial intelligence	23
3	adult	20
4	article	20
5	english as a second language	20
6	female	20
7	generative artificial intelligence	20
8	male	20
9	teacher	20
10	Professional development	18

Source: Output VOSviewer software

Visual mapping analysis using VOSviewer clearly demonstrated that the research landscape was highly integrated. The interconnections between clusters show that studies on AI tools (blue cluster), professional development (red cluster), and ChatGPT case studies (green cluster) do not stand alone but complement each other. This indicates that discussions on technology cannot be separated from the need for teacher training and its pedagogical implications.

The close interconnection among these research topics directly reflects the profound implications for the role of English as a Foreign Language (EFL) teachers, which is continually evolving amid the massive integration of AI (Nazim & Alzubi, 2025a). Teachers' roles are transforming, requiring them to integrate technology into their teaching practices using innovative and contextual strategies (Zulianti et al., 2024). However, this transformation is accompanied by teachers' dualistic perceptions: on the one hand, there is optimism regarding increased student engagement; on the other, concerns arise about the potential decline in critical thinking skills and grammatical accuracy (Khattak et al., 2025).

This dilemma highlights the crucial need for strategic and proactive professional development (PD) to equip teachers with the necessary skills. Effective PD programs should be designed as guides for all educational stakeholders, from researchers to policymakers (Pitura et al., 2025; Zulianti et al., 2024). To ensure that teachers can optimally leverage technology, PD programs must be grounded in fundamental components such as the integration of technological, pedagogical, and content knowledge (TPACK), as well as the promotion of reflective practice and collaborative learning (Arefian et al., 2024). Ultimately, through structured workshops and training, teachers can effectively adapt their roles, master new teaching techniques, and improve both the quality of instruction and student learning outcomes in this digital era (Metwally & Bin-Hady, 2025).(See figure 11. Enhancing EFL Education with AI Integration)

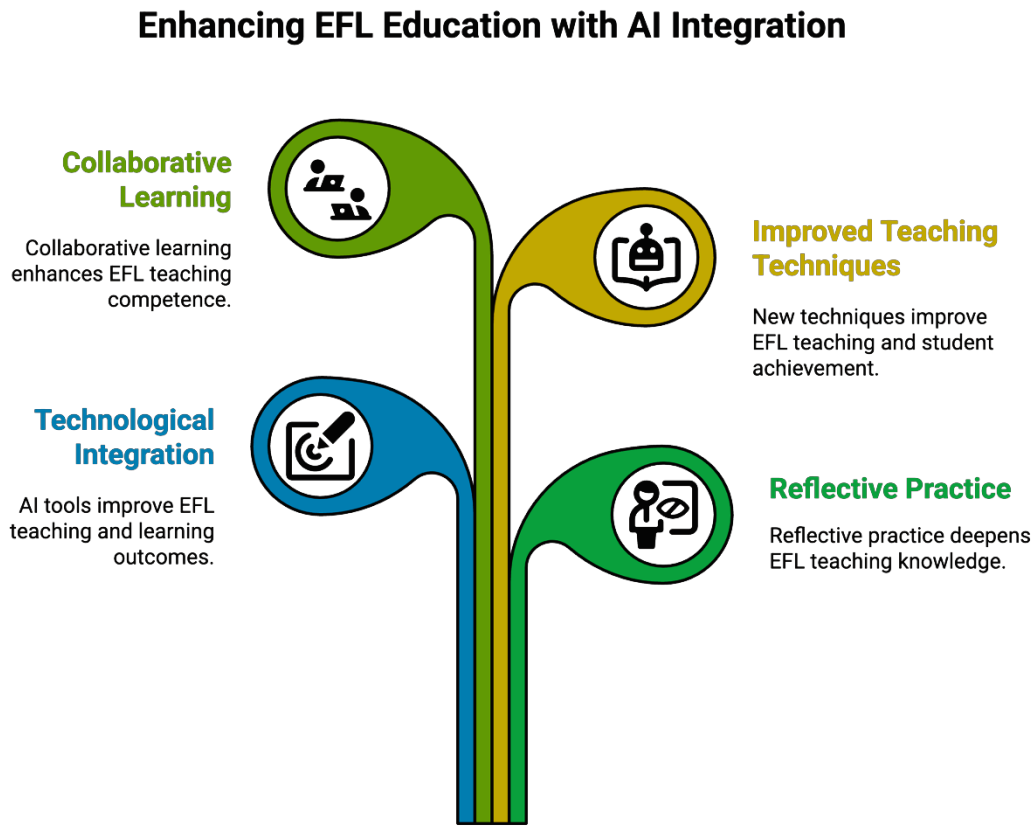


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Figure 11. Enhancing EFL Education with AI Integration

4. Conclusion

This study comprehensively reviewed studies focusing on the application of Artificial Intelligence (AI) in English as a Foreign Language (EFL) classrooms. This provided a cohesive understanding of teachers' perceptions and implementation of AI in their teaching practices. The findings indicate a consistent rise in research activity and increasing interest in how AI enhances teaching effectiveness, feedback, and student engagement in various settings. This study enhances current models by incorporating ethical considerations into the Technology Acceptance Model (TAM), highlighting that teachers' willingness to embrace AI is influenced not only by its perceived usefulness and ease of use, but also by their ethical assessment of AI's role in education. Additionally, it contributes to the discourse on Teacher Professional Identity (TPI), demonstrating how AI encourages educators to reassess their values, roles and professional development in the digital age. The findings highlight the need for structured, ongoing professional development programs that move beyond basic technical skills to focus on pedagogical integration, ethical responsibilities, and critical AI literacy. Institutions should establish clear guidelines and integrity frameworks to help teachers use AI ethically and effectively. Software developers should adopt pedagogy-first design principles that prioritise transparency, adaptability, and user empowerment. To enhance reliability and overcome existing methodological challenges, future studies should utilise a variety of robust research designs, including longitudinal, experimental, and mixed-method approaches. Additionally, broadening research to encompass different cultural and institutional settings will aid in understanding how teachers' beliefs and practices adapt to technological advancements.. Overall, this study offers both theoretical and practical insights into the role of AI in EFL education. By combining empirical data with theoretical perspectives and practical suggestions, this study advocates for a balanced and ethically sound approach to integrating AI, which empowers educators and enhances language learning globally.

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6. Conflict of Interest

The authors declare no conflicts of interest.

7. Author Contributions

All authors have made significant, direct, and intellectual contributions to the work, including but not limited to conceptualisation, methodology, investigation, formal analysis, writing the original draft, and writing the review and editing. All the authors have read and agreed to the published version of the manuscript.

8. Data Availability Statement

Data will be made available on request

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Author Biographies

Dedi Aco is one of the students from Indonesia, who is currently continuing his education at one of the public campuses in Taiwan. Currently in the stage of completing the study. National Dong Hwa University (NDHU), Department of Education and Human Potential Development. His research interest is AI for education, AI for learning EFL for students, and Generative AI.

Email: 811288117@gms.ndhu.edu.tw

	**Ming Chou Liu** is a Professor at the Department of Education and Human Potential Development, National Dong Hua University. He holds a Ph.D degree at National Taiwan Normal University. His Areas of Specialization ICT integrated Teaching, Computer Education, Web-based Learning, Digital Teaching Design and Development. Ming Chou Liu is a correspondent author and can be reached at: liu@gms.ndhu.edu.tw
	**Harmita Sari, S.Pd., M.Pd., Ph.D.** is a lecturer in the Master of Pedagogy Department, Muhammadiyah University of Palopo. She earned her Master's degree in Language Education from Makassar State University and completed her Doctoral Program in the Department of Education and Human Potentials Development at National Dong Hwa University, Taiwan. Her research interests include education, psychology, linguistics, sociolinguistics, poetry, and social media. Email address: harmita@umpalopo.ac.id