INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT

OPEN ACCESS JOURNAL

Vol 13, Issue 3, (2024) E-ISSN: 2226-6348

A Systematic Literature Review of the Impact of using Artificial Intelligence (AI) Tools in English Language Teaching and Learning

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To Link this Article: http://dx.doi.org/10.6007/IJARPED/v13-i3/22863 DOI:10.6007/IJARPED/v13-i3/22863

Published Online: 14 September 2024

Abstract

This paper conducted a systematic literature review based on the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) methodology to explore the types of AI tools used in teaching and learning and their impacts on English language teaching and learning. This systematic literature review explores the integration and impact of artificial intelligence (AI) in English language teaching and learning, synthesising findings from 25 recent studies across three main databases namely, Science Direct, SCOPUS, and Taylor & Francis Online. The analysis identifies four main themes: Impact on: (1) Learning and Skill Development, (2) Teacher and Professional Development, (3) Technological Integration and Challenges, and (4) Student Experience and Perception. The results reveal that AI tools significantly enhance language learning outcomes, such as writing skills and critical thinking, and offer personalised and dynamic learning experiences. However, the successful integration of AI in education requires addressing challenges related to technological implementation, ethical considerations, and the need for comprehensive teacher training. Despite these challenges, AI's potential to transform language education is evident, as it fosters both academic and professional growth for students and educators alike.

Keywords: Systematic Literature Review, AI Tools, English Language Teaching and Learning

Introduction

In recent years, the integration of Artificial Intelligence (AI) tools in educational settings has garnered significant attention, particularly in the domain of English Language Teaching and Learning (ELT). Most classrooms are moving into the AI world.

The utilisation of AI models to enhance pedagogical practices has emerged as a prevalent theme in contemporary literature (Shi et al., 2023; Alrajhi, 2024). Shi et al. (2023) highlight the potential of AI models in optimising blended teaching effectiveness in college-level English education, showcasing the transformative role AI can play in pedagogical approaches. Additionally, Alrajhi (2024) delves into the realm of AI pedagogical chatbots, elucidating their significance as L2 conversational agents, thereby accentuating the interactive dimension AI brings to language learning environments.

Furthermore, the advent of AI-powered language tools has reshaped academic communication paradigms within higher education contexts (Ou et al., 2024). Through a post-humanist lens, Ou et al. (2024) elucidate the evolving dynamics of academic communication facilitated by AI tools, highlighting the symbiotic relationship between technology and language pedagogy. Similarly, Kohnke et al. (2024) examine the preparedness of university language instructors in harnessing generative artificial intelligence, shedding light on the evolving roles and responsibilities of educators in AI-integrated educational landscapes.

Moreover, the impact of AI in the EFL context, particularly in Saudi Arabian universities, has been subject to scholarly inquiry (Alhalangy & AbdAlgane, 2023). Through a comprehensive case study, Alhalangy and AbdAlgane (2023) examine the ramifications of AI integration in EFL education, offering insights into the transformative potential of AI tools in enhancing language learning outcomes.

This systematic literature review aims to explore the multifaceted impact of utilising AI tools in the realm of ELT, focusing on two key research questions: Firstly, what are the commonly employed AI tools by both educators and learners? Secondly, what are the discernible impacts of incorporating AI tools into English language education? In conclusion, this review synthesizes insights from diverse scholarly perspectives to shed light on the landscape of AI integration in English language education, culminating in a focused exploration of the prevalent AI tools and their discernible impacts on pedagogical practices and learning outcomes.

Research Objectives

The Objectives of this Study were:

1. To identify the AI tools that are commonly used by teachers and students.
2. To determine the impacts of using AI tools in English language education.

Research Questions

The research questions of this study were:

1. What are the commonly used AI tools by both teachers and students?
2. What are the impacts of using AI tools in English language education?

Background of the Study

This section gives a detailed look at what AI tools mean in classrooms by looking at many previous studies. The goal was to explain what AI tools are and then talk about the different types of tech platforms used in classrooms. By combining ideas from past research, this overview aimed to make AI tools clearer. It wanted to help people understand what AI tools are, how they're used, and what impact they have on English education.

The Definition of AI

Artificial Intelligence (AI) in education involves using advanced computational algorithms and machine learning models to improve teaching and learning. Recently, AI has been increasingly integrated into educational settings to provide personalised learning experiences, enhance teaching strategies, and develop critical thinking skills.

AI applications in education include virtual human interactions, adaptive learning systems, and intelligent tutoring systems, all designed to customise educational content to individual student needs, thereby increasing engagement and learning outcomes. For instance, AI models are used to optimise blended teaching effectiveness in college-level English education by offering tailored feedback and adjusting instructional materials to students' proficiency levels (Shi et al., 2023). This personalised approach accommodates diverse learning speeds and styles, making education more effective and efficient.

AI also significantly enhances students' critical thinking skills. AI-powered tools allow students to engage in complex problem-solving tasks requiring higher-order thinking. Darwin et al. (2024) highlight that AI enables students to critically analyse and evaluate information, enhancing their cognitive abilities and preparing them for real-world challenges.

In language education, AI tools like conversational agents and chatbots provide interactive and immersive learning experiences. Bekou et al., (2024) describe the use of ChatGPT in English language teaching in Morocco, noting that these applications offer opportunities to practise conversational English, receive instant feedback, and improve language proficiency. AI in education personalised learning, enhances critical thinking, and offers interactive language practice, creating more effective learning environments.

The AI tools

AI tools in education are revolutionising student learning and content interaction, particularly in language acquisition and writing skills development. AI-powered chatbots, as detailed by Alrajhi (2024), act as L2 conversational agents, simulating real-life conversations to facilitate language practice. These chatbots provide students with a low-pressure environment to practice speaking in a second language, boosting fluency and confidence. Similarly, voice-activated AI tools, such as those explored by Butler and Starkey (2024), are increasingly common in classrooms. Devices like Google Assistant offer instant answers to student queries, fostering a more interactive and engaging learning experience.

AI tools are also transforming academic writing instruction. Dong (2023) explains how AI-powered pedagogy in English writing offers practical benefits by automating feedback and assessments, allowing educators to focus on more personalised teaching. Likewise, Marzuki et al. (2023) emphasise the positive impact of AI writing tools on the content and organisation of students' writing, noting that these tools help EFL teachers provide more structured and detailed feedback. Essel et al. (2024) study the use of large language models like ChatGPT, highlighting how they enhance cognitive skills by offering immediate, sophisticated responses to students' questions, aiding their learning and comprehension.

Virtual human interactions, as studied by Ericsson, Sofkova Hashemi, and Lundin (2023), provide a mix of enjoyment and challenges for students practising English speaking. These AI-driven interactions are engaging and improve speaking skills, though technical limitations can occasionally hinder the learning experience. Furthermore, AI-powered language tools in higher education, as discussed by Ou et al. (2024), enhance academic communication by equipping students with advanced language processing capabilities, improving the quality of their written work.

AI tools are crucial to modern education, offering diverse applications from language practice and voice-activated assistance to advanced writing support and academic communication.

These tools enhance learning outcomes, making education more personalised and interactive.

The Impact of using AI in Education

AI tools are revolutionising education, particularly in language learning and critical thinking development. In Saudi universities, Alhalangy and AbdAlgane (2023) found that AI enhances EFL education by providing personalised feedback and adaptive learning experiences, which cater to individual student needs and improve engagement and outcomes. Bekou et al. (2024) also highlight the benefits and challenges of using ChatGPT for English language teaching in Morocco. They note that AI tools like ChatGPT offer interactive language practice that helps improve students' conversational skills, though they also point out ethical and practical challenges associated with these technologies.

AI's role in fostering critical thinking is significant. Darwin et al. (2024) explain that AI tools facilitate complex problem-solving activities, enhancing students' cognitive skills. These tools present scenarios that require students to analyse, evaluate, and create solutions, thus developing essential critical thinking skills. Darvishi et al. (2024) explore AI's impact on student agency, finding that AI can empower students by giving them more control over their learning, leading to greater motivation and self-efficacy.

Ethical considerations and equity issues are also crucial when integrating AI in education. Dakakni and Safa (2023) discuss AI's potential to democratise access to educational resources while highlighting concerns about data privacy, algorithmic biases, and the digital divide, which can exacerbate educational inequalities.

Fleckenstein et al. (2024) on the other hand, examine teachers' ability to detect AI-generated texts, stressing the need for educators to adapt their assessment methods to distinguish between human and AI-generated work to maintain academic integrity. Moorhouse and Kohnke (2023) emphasise the impact of generative AI on language teacher education, indicating that teacher educators must be equipped to integrate AI into their teaching methods effectively.

AI tools are transforming education by enhancing personalised learning, fostering critical thinking, and empowering student agency, while also presenting ethical and equity challenges that educators must navigate.

Methodology

This systematic literature review utilised the PRISMA 2020 checklist as a framework, adhering to its 27-items checklist and accompanying four-phase flow diagram. Articles were assessed and scrutinised in accordance with this methodology to address two specific research questions. The four phases of PRISMA methodology consisted of the identification phase, screening phase, eligibility phase, and inclusion phase.

Phase I: Identification Phase

The study established five specific criteria for identifying and selecting articles. Initially, the researchers utilised ScienceDirect, SCOPUS, and Taylor & Francis Online databases, which are accessible and relevant to the fields of social sciences and education. Articles considered must have been published between 2023 and 2024 and written in English. Furthermore, only

research articles were included, and full open access availability was required. Table 1 outlines these five criteria employed in the article selection process.

Table 1
Table Shows The Inclusion and Exclusion Criteria in Choosing the Articles

Criteria	Inclusion	Exclusion
Database	Science Direct, SCOPUS, and Taylor & Francis Online	Other databases
Publication year	2023-2024	Before 2023
Language	English	Other languages
Document type	Research Article	Book, book chapters, review papers, proceedings
Access to Full Article	Open access	Limited & No access

Apart from the five predefined criteria, the articles were determined by using several search strings and keywords. Each search string was used in all three databases to find relevant articles related to the challenges in using Artificial Intelligence (AI) tools in English Language teaching.

Table 2
Table Shows the Search Strings used in All Three Databases to Identify the Articles

Search Strings				
English Language	AND	Artificial Intelligence		
English Language Teaching	AND	Artificial Intelligence	AND	Challenges
Challenges	AND	Artificial Intelligence	AND	Education

In accordance with the criteria and search strings outlined in Tables 1 and 2, all articles meeting the inclusion and exclusion criteria were selected and compiled, while those not meeting the criteria were eliminated and excluded from the list.

Phase II: Screening Phase

The articles identified in Phase I underwent additional screening based on their titles. Each article's title was carefully checked to align with the specified keywords. Furthermore, the abstract of each article was reviewed to confirm compliance with the predetermined inclusion and exclusion criteria. Articles whose titles and abstracts did not meet the criteria were excluded from further consideration.

Phase III: Eligibility Phase

Articles underwent assessment to determine their eligibility for further screening in the third phase. Only those articles that satisfied all inclusion and exclusion criteria proceeded to the final stage. This phase was crucial in ensuring the relevance of all identified articles to address the research questions.

Phase IV: Exclusion Phase

Articles that fulfilled the eligibility criteria were selected for analysis and review in this study, while those failing to meet the criteria were excluded. Exclusion criteria included books, book chapters, literature reviews, seminar papers, articles with restricted or no access to full text, and publications not from the year 2023. The process of identifying articles was visualised in a flowchart presented in Figure 1

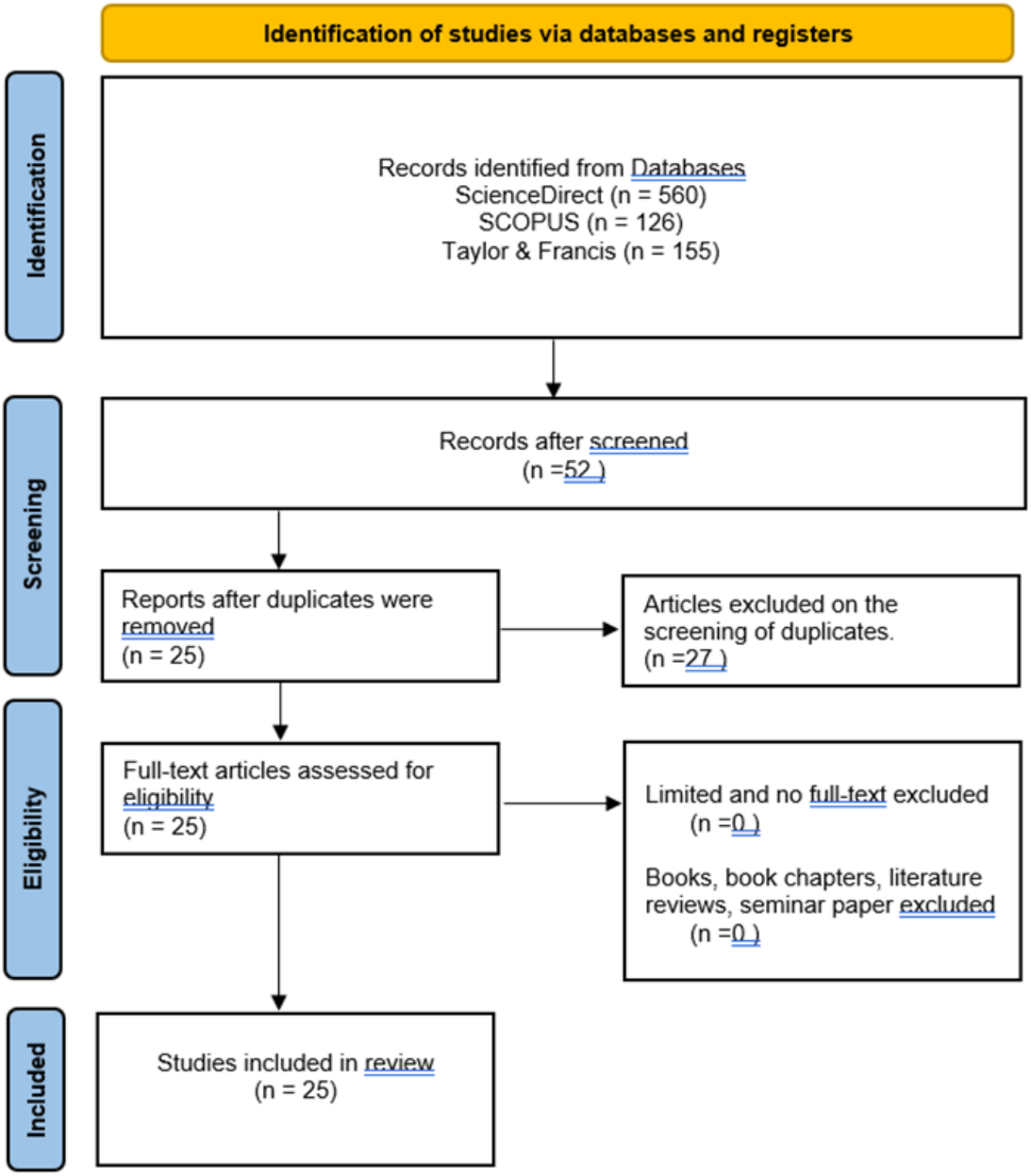

Figure 1 Figure shows the flowchart of the article screening and selection process.

After the four phases screening process, a total of 25 articles were ultimately chosen. These articles comprised research papers employing a variety of methodologies including qualitative, quantitative, and mixed methods. Specifically, 9 articles utilised qualitative methodology, 7 employed quantitative methods, and the remaining 9 articles were categorised as mixed-method research, as outlined in Table 3.

Table 3
Table Shows the Number of Articles Based on The Research Methodology Employed

Research Methodology	Quantity
Qualitative	9
Quantitative	7
Mixed method	9

Findings and Discussions

Researchers have gathered, examined, and organised a total of 25 articles for their study. Notably, all these articles were sourced from the years 2023 to 2024. This selection approach aims to validate the study's relevance by connecting it with contemporary issues and trends. Furthermore, it aids the researcher in effectively addressing the proposed research questions.

Table 4
Shows the Details of Each Article, the Technology-Based Platforms used in Each Research, And The Impacts of AI Tools In English Language Teaching and Learning

No.	Title & Author (s)	Country	Research Method	Research Participants	Technology-based platforms	Relevant impacts
1.	Fun and frustrating: Students' perspectives on practising speaking English with virtual humans Ericsson, E., Sofkova Hashemi, S., & Lundin, J. (2023)	Sweden	Mixed-method	25 lower secondary school students	AI-based spoken dialogue system (SDS)	On average; helps in speaking skills but can be frustrating at times.
2.	Utilizing AI models to optimize blended teaching effectiveness in college-level English education Shi, L., Muhammad Umer, A., & Shi, Y. (2023)	China	Mixed-method	University students	AI models	Provides a road map for using AI in college-level English courses
3.	Artificial intelligence pedagogical chatbots as L2 conversational	Arab Saudi	Mixed-method	143 undergraduate students from	A web-based AI pedagogical chatbot named	Positive impact on alleviating writing anxiety

	agents Alrajhi, A. S. (2024).			Saudi University	Tutor Mike	
4.	Academic communication with AI-powered language tools in higher education: From a post-humanist perspective Ou, A. W., Stöhr, C., & Malmström, H. (2024)	Sweden	Qualitative	5894 university students nationwide	AILT (ChatGPT, Grammarly and Google Translate)	Positive impact on their writing practices.
5.	Exploring generative artificial intelligence preparedness among university language instructors: A case study Kohnke, L., Moorhouse, B. L., & Zou, D. (2023)	Hong Kong	Qualitative	12 instructors from the English language centre at a publicly-funded university	AIED tools (ChatGPT)	To include AI as teachers' professional development to address the challenges and concerns.
6.	Artificial intelligence in the L2 classroom: Implications and challenges on ethics and equity in higher education: A 21st century Pandora's box Dakakni, D., & Safa, N. (2023)	Lebanon	Mixed-method	50 students and 6 instructors at private English speaking universities	AI technologies	Revamping of the educational system at the curricular level where learning objectives and assessments are changed to accommodate the use of AI in the educational classroom
7.	Do teachers spot AI? Evaluating the detectability of AI-generated texts among student essays Fleckenstein, J., Meyer, J., Jansen, T., Keller, S. D., Köller, O., & Möller, J. (2024)	Germany	Quantitative	89 pre-service teachers was recruited via an online lecture for pre-service teachers enrolled in a Master of Education program at a German university	ChatGPT	Teacher unable to detect the difference between AI generated texts and students' writing.
8.	Bridging technology and pedagogy from a global lens: Teachers' perspectives on integrating ChatGPT in English language teaching Al-khresheh, M. H. (2024)	Saudi Arabia	Qualitative	46 English language teachers from all over the world	ChatGPT	ChatGPT has potential to facilitate personalised and dynamic learning interactions, but concerns regarding linguistic fidelity, potential overreliance on the tool, and the possibility of creativity suppression
9.	Critical thinking in the AI era: An exploration of EFL students' perceptions, benefits,	Indonesia	Qualitative	7 EFL students pursuing their master's degrees at two	ChatGPT	AI can be an asset in the development of critical thinking skills, but with

	and limitations Darwin, Rusdin, D., Mukminatien, N., Suryati, N., Laksmi, E. D., & Marzuki. (2024)			distinct universities in Indonesia		caveats that require careful management
10.	The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective Marzuki, Widiati, U., Rusdin, D., Darwin, & Indrawati, I. (2023)	Indonesia	Qualitative	4 EFL teachers from 3 different universities.	Quillbot, WordTune, Jenni, ChatGPT, Paperpal, Copy.ai, and Essay Writer	AI writing tools positively improved their students' writing quality, particularly enhancing the quality of their content and organisation.
11.	Challenges and Opportunities for Foreign Language Teachers in the Era of Artificial Intelligence Yang, A. (2024)	China	Mixed method	EFL teachers from various universities	ChatGPT	Integrating artificial intelligence into foreign language teaching at the university level can significantly enhance teaching effectiveness and talent development.
12.	Exploring opportunities and challenges of using ChatGPT in English language teaching (ELT) in Morocco Bekou, A., Mhamed, M. B., & Assissou, K. (2024)	Morocco	Mixed method	62 English language teachers from various educational institutions representing different levels (middle school, high school, university, and other vocational institutions)	ChatGPT	Positive impact on personalised learning, instant feedback, teachers' professional development enhancement, and access to authentic language resources. challenges:concerns about accuracy, cultural appropriateness, and excessive reliance on technology
13.	Challenges in Artificial Intelligence Development in Higher Education in China, India, and Indonesia: International Students' Perspectives Mustopa, M., Nasikhin, N., Chamami, R., Nihayah, H., Habibullah, M. R., & Manshur, A. (2024)	China,India,Indonesia	Qualitative	12 doctoral students of teacher education	AI technologies	The diversity of AI platform usage in each country which may reflect the diversity of needs and preferences in education and technology development at the national level.
14.	Exploring the Impact of AI on The EFL Context: A Case Study of Saudi Universities	Saudi Arabia	Descriptive-analytical method	45 EFL teachers working in various	AI technologies	Academics need better training to incorporate AI technology into their lessons.

	Alhalangy, A., & AbdAlgane, M. (2023)					
15.	Revolutionizing Academic English Writing through AI-Powered Pedagogy: Practical Exploration of Teaching Process and Assessment Dong, Y. (2023)	China	Quantitative	60 undergraduate students enrolled in an Academic English course at Dalian Maritime University	AI-powered writing tools	AI-powered pedagogy has potential in transforming traditional English writing teaching and offers practical implications for teachers, students, and educational technology developers.
16.	Examining artificial intelligence literacy among pre-service teachers for future classrooms Ayanwale, M. A., Adelana, O. P., Molefi, R. R., Adeeko, O., & Ishola, A. M. (2024)	Nigeria	Quantitative	529 pre-service teachers in a Nigerian university	AI tools	The positive impact of gaining knowledge and understanding of AI on various aspects of AI literacy emphasises the need for comprehensive AI education in teacher preparation programs
17.	The effects of generative AI on initial language teacher education: The perceptions of teacher educators Moorhouse, B., & Kohnke, L. (2024)	Hong Kong	Qualitative	13 English language teacher educators	ChatGPT	Generative AI tools will substantially affect the ILTE curriculum, instruction, and assessment
18.	ChatGPT effects on cognitive skills of undergraduate students: Receiving instant responses from AI-based conversational large language models (LLMs) Essel, H. B., Vlachopoulos, D., Essuman, A. B., & Amankwa, J. O. (2024)	Ghana	Mixed-method	125 university students	ChatGPT	Incorporating ChatGPT influenced the students' critical, reflective, and creative thinking skills and their dimensions discernibly
19.	Artificial intelligence in language instruction: impact on English learning achievement, L2 motivation, and self-regulated learning Wei, L. (2023)	China	Mixed Method	60 university students,	AI-mediated language instruction	AI-mediated language instruction holds promise in revolutionising language learning, and it highlights the positive impact of AI-driven educational technologies in the realm of language education.
20.	Exploring AI-mediated	China	Mixed method	867 Chinese	AI tools	AI tools are

	informal digital learning of English (AI-IDLE): a mixed-method investigation of Chinese EFL learners' AI adoption and experiences Liu, G. L., Darvin, R., & Ma, C. (2024)			EFL learners	(ChatGPT, Bing Chat)	recognised and accepted.
21.	Advancing AI education: Assessing Kenyan in-service teachers' preparedness for integrating artificial intelligence in competence-based curriculum Fundi, M., Sanusi, I. T., Oyelere, S. S., & Ayere, M. (2024)	Kenya	Quantitative	308 teachers	AI technologies	Transforming the teacher training curriculum to include AI and designing AI professional development programs for in-service teachers to ensure they are well-equipped to teach AI.
22.	Synergizing collaborative writing and AI feedback: An investigation into enhancing L2 writing proficiency in wiki-based environments Wiboolyasarin, W., Wiboolyasarin, K., Suwanwihok, K., Jinowat, N., & Muenjanchoey, R. (2024)	Thailand	Quantitative	39 junior exchange students	ChatGPT	Positive impact of a collaborative writing intervention improved by AI feedback on specific aspects of writing
23.	Impact of AI assistance on student agency Darvishi, A., Khosravi, H., Sadiq, S., Gašević, D., & Siemens, G. (2024)	Australia	Quantitative	1625 students across 10 courses	AI assistance	Students tended to rely on rather than learn from AI assistance
24.	Investigating students' cognitive processes in generative AI-assisted digital multimodal composing and traditional writing Liu, M., Zhang, L. J., & Biebricher, C. (2023)	New Zealand	Qualitative	8 Chinese international undergraduate students	ChatGPT, Bing Chat	Positive impact on students' writing skills
25.	OK Google, help me learn: an exploratory study of voice-activated artificial intelligence in the classroom Butler, L., & Starkey, L. (2024)	New Zealand	Qualitative	99 students and 5 teachers	Google Home mini devices	Voice activated AI can have a positive impact on classroom practices

Table 4 provides a comprehensive summary of the research methodologies employed in the 25 reviewed articles, the participants involved, the AI platforms utilised, and the specific impacts discussed regarding these platforms in the context of English language teaching and learning

Types of AI tools

Among the AI tools used are AI-based spoken dialogue system (SDS), AI models,A web-based AI pedagogical chatbot named Tutor Mike, AILT (ChatGPT, Grammarly and Google Translate), AIED tools (ChatGPT)AI technologies, Quillbot, WordTune, Jenni, ChatGPT, Paperpal, Copy.ai, and Essay Writer AI-powered writing tools, AI-mediated language instruction, Bing Chat and Google Home mini devices. Despite the diversity of AI platforms used across these studies, the findings consistently highlight the positive impacts of AI on various aspects of English language education. For instance, tools such as ChatGPT, Quillbot, and other AI writing assistants have significantly improved students' writing skills, enhancing the quality, organisation, and content of their work. AI-driven language learning platforms and chatbots have also facilitated improvements in speaking skills and overall language proficiency, providing interactive and personalised learning experiences that motivate students to engage more deeply with the language.

Different types of AI platforms have been utilised, including mobile apps, online AI-powered tools, and AI-driven language learning management systems. These platforms have been shown to offer a range of advantages for English language learners. As summarised in the column 'Relevant Impacts' in Table 4, AI-based learning tools provide engaging and personalised opportunities for students to enhance their English language skills. These tools have been particularly effective in fostering critical thinking, self-regulated learning, and collaborative learning among students, aligning with findings from previous studies.

Table 5

Shows the Impacts of AI in Teaching and Learning From 25 Articles. The Impacts Were Categorised Into Four Theme

No.	Author (s)	Learning and Skill development	Teacher Professional Development	Technological Integration and challenges	Students' experiences and perceptions
1.	Ericsson, E., Sofkova Hashemi, S., & Lundin, J. (2023)	/			/
2.	Shi, L., Muhammad Umer, A., & Shi, Y. (2023)	/		/	
3.	Alrajhi, A. S. (2024).	/			/
4.	Ou, A. W., Stöhr, C., & Malmström, H. (2024)	/		/	
5.	Kohnke, L., Moorhouse, B. L., & Zou, D. (2023)		/	/	
6.	Dakakni, D., & Safa, N. (2023)		/	/	
7.	Fleckenstein, J., Meyer, J., Jansen, T., Keller, S. D., Köller, O., & Möller, J. (2024)		/	/	
8.	Al-khresheh, M. H. (2024)		/	/	
9.	Darwin, Rusdin, D., Mukminatien, N., Suryati, N., Laksmi, E. D., & Marzuki. (2024)	/			/

10.	Marzuki, Widiati, U., Rusdin, D., Darwin, & Indrawati, I. (2023)	/			
11.	Yang, A. (2024)	/	/	/	
12.	Bekou, A., Mhamed, M. B., & Assissou, K. (2024)	/	/	/	/
13.	Mustopa, M., Nasikhin, N., Chamami, R., Nihayah, H., Habibullah, M. R., & Manshur, A. (2024)	/		/	
14.	Alhalangy, A., & AbdAlgane, M. (2023)		/	/	
15.	Dong, Y. (2023)	/	/	/	
16.	Ayanwale, M. A., Adelana, O. P., Molefi, R. R., Adeeko, O., & Ishola, A. M. (2024)	/	/	/	
17.	Moorhouse, B., & Kohnke, L. (2024)		/	/	
18.	Essel, H. B., Vlachopoulos, D., Essuman, A. B., & Amankwa, J. O. (2024)	/			/
19.	Wei, L. (2023)	/		/	
20.	Liu, G. L., Darvin, R., & Ma, C. (2024)	/		/	/
21.	Fundi, M., Sanusi, I. T., Oyelere, S. S., & Ayere, M. (2024)		/	/	
22.	Wiboolyasarin, W., Wiboolyasarin, K., Suwanwihok, K., Jinowat, N., & Muenjanchoey, R. (2024)	/			
23.	Darvishi, A., Khosravi, H., Sadiq, S., Gašević, D., & Siemens, G. (2024)	/		/	/
24.	Liu, M., Zhang, L. J., & Biebricher, C. (2023)	/		/	/
25.	Butler, L., & Starkey, L. (2024)	/		/	/

The 25 articles analysed in Table 4 reveal various themes categorising the impacts of AI on students' learning experiences. These themes, which recur throughout the literature, include enhancements in writing proficiency, speaking skills, critical thinking, language proficiency, and collaborative learning. The frequency of each theme discussed in the articles underscores the significant and multifaceted influence of AI in the realm of English language education.

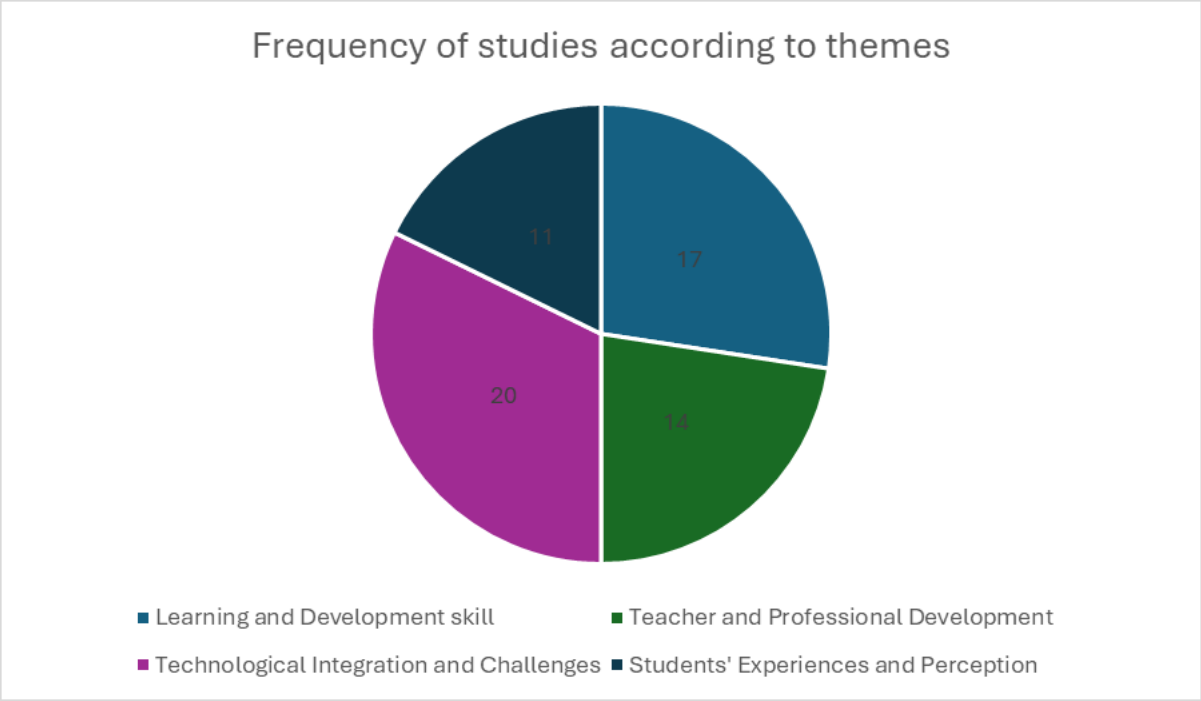

Figure 2 Figure shows the frequency of studies discussing the impacts of AI tools in education.

The pie chart displays the percentage of articles across four themes: Learning and Skill Development (32%), Teacher Professional Development (20%), Technological Integration and Challenges (28%), and Students' Experiences and Perceptions (20%). Learning and Skill Development has the largest share, followed by Technological Integration and Challenges. Teacher Professional Development and Students' Experiences and Perceptions make up smaller portions, each representing 20% of the articles.

The four impacts of using AI

The integration of AI in education brings numerous benefits and challenges across different aspects of teaching and learning. One prominent theme is Learning and Skill Development, highlighted by several studies. For instance, Ericsson, Sofkova Hashemi, and Lundin (2023) found that AI-driven virtual humans can enhance students' English-speaking skills, providing a blend of fun and frustration. Shi, Muhammad Umer, and Shi (2023) discussed the optimization of blended teaching in college-level English education using AI, demonstrating how AI can tailor learning experiences to improve outcomes.

Teacher Professional Development is another crucial theme. Kohnke, Moorhouse, and Zou (2023) explored how generative AI prepares university language instructors, emphasising the need for educators to adapt to AI-enhanced teaching tools. Similarly, Dakakni and Safa (2023) discussed the ethical and equity implications of AI in the L2 classroom, underlining the necessity for teachers to navigate these challenges responsibly.

Technological Integration and Challenges are well-documented. Ou, Stöhr, and Malmström (2024) examined how AI-powered language tools facilitate academic communication, whereas Fleckenstein et al. (2024) focused on the detectability of AI-generated texts,

highlighting the technological hurdles educators face in distinguishing AI-produced content from student work.

Finally, Students' Experiences and Perceptions reflect diverse reactions to AI in education. Darwin et al. (2024) investigated EFL students' perceptions, noting both benefits and limitations of AI in fostering critical thinking skills. Marzuki et al. (2023) addressed how AI writing tools influence the content and organisation of students' writing, showcasing both the potential and the frustration associated with these technologies.

Conclusion

The systematic review of 25 articles highlights the transformative potential of AI in English language teaching and learning. AI tools are found to significantly enhance learning outcomes by improving students' writing quality, critical thinking, and overall language proficiency. The positive impact extends to teachers, who benefit from professional development opportunities and improved instructional effectiveness. However, integrating AI into educational settings poses several challenges, including technological, ethical, and equity concerns. Addressing these challenges requires comprehensive teacher training and curriculum redesign to fully harness AI's benefits. Additionally, while students generally have positive experiences with AI tools, issues such as frustration and overreliance must be managed carefully. Overall, the findings underscore AI's promise in revolutionising language education, providing valuable insights for educators, policymakers, and educational technology developers.

Recommendations

Future research seeking to explore a similar area as this study should consider these recommendations and suggestions to result in an improved finding. This study could further be refined by using a larger set of databases to have higher reliability, validity, and results accuracy. Other than using larger databases, the inclusion criteria for the year of publication should range from five years before the current year to see the changing trends of the impact caused by AI tools used in the classroom setting. Based on the findings, more empirical research should be conducted on the impact of AI tools in English language classrooms in other aspects, such as teachers' perception or students' perception. In addition, this review would also be beneficial to consider several factors, such as language skills and geographical factors.

Limitations

While this study successfully addressed both research questions, it encountered several limitations. Firstly, the exploration of only three databases restricted the breadth of research articles considered. Additional databases like Springer, SAGE journals, and ProQuest could offer a more comprehensive pool of literature. However, accessibility constraints hindered the inclusion of a larger dataset for review and analysis. Secondly, the study may be affected by publication bias, as studies lacking statistical significance might not be published. This omission could potentially overlook valuable insights crucial to a systematic literature review. In summary, despite the study's accomplishments in addressing its research objectives, its scope was constrained by the limited databases explored and accessibility issues, while the possibility of publication bias may have influenced the findings.

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