Artificial Intelligence and Personalized Learning in ESL: A Systematic Review of Adaptive Material Design and Ethical Considerations.

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ABSTRACT

The growing global demand for English proficiency has exposed limitations in traditional English as a Second Language (ESL) instruction, particularly in addressing diverse learner needs. This systematic literature review (SLR) investigates how Artificial Intelligence (AI)-personalized learning platforms enhance ESL learning by adapting materials to learners' proficiency levels, learning styles, and individual needs. It also explores the ethical considerations involved in implementing AI in ESL contexts. Twenty peer-reviewed publications from major academic databases published between 2014 and 2025 were examined using the PRISMA methodology. In contrast to conventional one-size-fits-all methods, research shows that AI-driven platforms greatly increase student autonomy, engagement, and total language competency by providing personalised learning routes, real-time feedback, and multimodal material. However, challenges such as algorithmic bias, data privacy, equitable access, and the irreplaceable role of educators must be addressed to ensure ethical and inclusive AI integration. This review underscores the transformative potential of AI in ESL education while emphasizing the importance of responsible and equitable implementation.

Keywords: Artificial Intelligence, Personalized Learning, ESL Instruction, Adaptive Learning, Language Proficiency, Ethical Challenges

INTRODUCTION

The globalization of communication and the increasing demand for English proficiency have propelled English as a Second Language (ESL) education to the forefront of educational discourse. However, traditional ESL teaching methodologies often struggle to cater to the diverse needs of learners, characterized by varying proficiency levels, learning styles, and individual learning goals. This heterogeneity necessitates a shift towards more personalized and adaptive learning approaches. In recent years, Artificial Intelligence (AI) has emerged as a promising tool to address these challenges, offering the potential to revolutionize ESL education by providing tailored learning experiences. This Systematic Literature Review (SLR) aims at how does the use of AI-personalized learning platforms that adapt materials based on proficiency, learning styles, and needs compare to traditional ESL instruction in terms of improving overall language proficiency and to investigate the ethical considerations and challenges associated with the implementation of AI in ESL education.

RQ 1: How is Artificial Intelligence (AI) used to support personalized learning in ESL Context?

RQ 2: What are the ethical considerations and challenges associated with the implementation of AI in ESL education.

The advent of AI in education has led to the development of sophisticated algorithms capable of analysing learner data and dynamically adjusting instructional content (Holmes, Bialik, Fadel, 2019). This capability is particularly crucial in ESL contexts, where learners exhibit a wide spectrum of linguistic abilities, ranging from beginners grappling with basic vocabulary and grammar to advanced learners refining their communicative competence. AI-driven platforms can assess learners' proficiency through various means, including adaptive testing, Natural Language Processing (NLP) analysis of written and spoken output, and tracking of learner interactions with educational resources. By accurately gauging proficiency levels, these systems can deliver content that is neither too challenging nor too simplistic, ensuring optimal learning engagement and progress (Luckin et al., 2016).

Furthermore, the recognition of diverse learning styles, such as visual, auditory, and kinaesthetic preferences, underscores the importance of personalized instruction.AI can leverage machine learning techniques to identify learners' preferred modalities and tailor content accordingly. For instance, visual learners may benefit from interactive infographics and videos, while auditory learners might thrive with podcasts and audio-based exercises. Adapting to these individual styles can enhance comprehension and retention, thereby accelerating the learning process. The integration of AI tools can also address the individual needs of learners, such as specific learning disabilities or unique language learning goals.AI can create personalized learning pathways that cater to these requirements, ensuring that every learner receives the support they need to succeed (Zawacki-Richter, Marín, Bond, & Gouverneur, 2019).

Limitations of Traditional ESL Methodologies and the Emergence of AI-Driven Adaptive Learning

Traditional ESL teaching methodologies, predominantly characterized by teacher-centered instruction, reliance on textbooks, and rote memorization, often struggle to address the diverse learning needs of students (Brown, 2007). These methods typically involve standardized curricula, limited personalized feedback, and a one-size-fits-all approach, which may not cater to varying proficiency levels, learning styles, or individual learning goals. In contrast, AI-powered tools offer adaptive learning experiences by dynamically adjusting content based on real-time learner data, providing personalized feedback, and accommodating diverse learning styles through multimodal instruction. 1 This shift from static, uniform instruction to dynamic, personalized learning represents a fundamental departure from traditional methods, enabling more targeted and effective language acquisition. AI tools can analyze learner performance, identify areas of weakness, and provide tailored exercises, surpassing the limitations of traditional methods that often rely on generalized assessments and limited individual attention (Holmes, Bialik, Fadel, 2019). Liang et al., 2021; Crompton & Burke, 2023 found that immediate formative feedback through AI tools improved learners' engagement and language acquisition faster than traditional assessment methods.

Language acquisition is a very personal process that is impacted by a variety of elements, including motivation, cultural background, cognitive processes, past knowledge, and individual learning objectives (Oxford, 2003). Many students experience disengagement or delayed development as a result of traditional "one-size-fits-all" ESL training, which usually depends on standardised materials and fixed pacing (Brown, 2007). By adjusting teaching to each learner's requirements, preferences, and skills, personalisation in language learning aims to close this gap and maximise retention, engagement, and understanding (Dörnyei, 2005). According to research, students exhibit more motivation and attain higher language competence when they receive teaching that is tailored to their unique learning preferences, whether those preferences are visual, auditory, kinaesthetic, or multimodal (Ellis, 2008; Skehan, 1998). In recent years, Artificial Intelligence (AI) has emerged as a powerful tool to operationalize personalized learning at scale, offering real-time adaptation based on learners' behaviours, proficiency levels, and learning trajectories (Luckin et al., 2016; Holmes, Bialik, & Fadel, 2019). AI-driven personalized platforms can dynamically assess learner input and modify content delivery modes, difficulty levels, and feedback strategies, creating a more effective and individualized learning environment (Zawacki-Richter et al., 2019). In the context of ESL education, where learner diversity is particularly pronounced, personalization through AI represents a transformative shift from rigid, static instruction to a more flexible, learner-centered model that fosters greater language acquisition and autonomy.

Over the past ten years, the pace of Artificial Intelligence (AI) integration into education has increased, changing the way that information is imparted, evaluated, and tailored to each individual. With features like adaptive learning, intelligent tutoring systems, automated assessment, and personalised material delivery, artificial intelligence (AI) technologies once limited to experimental labs have already made their way into regular classrooms (Luckin et al., 2016; Holmes, Bialik, & Fadel, 2019). AI technologies are able to analyse vast amounts of learner data, such as performance trends, mistake patterns, and interaction behaviours, in order to dynamically modify teaching in real-time when it comes to language acquisition (Woolf, 2010). A more responsive, learner-centred educational experience is made possible by this capacity, which represents a substantial shift from conventional, static forms of instruction. Researchers point out that, especially when paired with personalisation techniques, AI-supported learning environments can promote increased learner autonomy, engagement, and accomplishment (Heffernan & Heffernan, 2014; Roll & Wylie, 2016). AI's ability to tailor ESL

training to each learner's requirements, style, and competency is especially important as the demand for English proficiency throughout the world keeps growing. To guarantee that the advantages of AI technologies are available and fair to all students, their quick development also necessitates a thorough analysis of its ethical, pedagogical, and societal ramifications (Li & Zhou, 2022; Alisoy, 2025).

Even though the amount of research on artificial intelligence in education is increasing, prior systematic reviews have frequently concentrated only on the pedagogical results or the technological efficacy of AI tools in language learning, failing to adequately incorporate the ethical aspects of these technologies in ESL contexts. The majority of previous reviews focus on engagement metrics, performance gains, or the advantages of adaptive learning, but they frequently ignore the ways in which ethical concerns—like data privacy, algorithmic bias, equitable access, and the changing role of human educators—intersect with learning outcomes in AI-mediated ESL instruction. Furthermore, there aren't many studies that take a comprehensive look at how these ethical issues could affect or jeopardise the efficacy and equity of individualised learning experiences. This leads to a crucial research vacuum since appropriate and successful use of AI in ESL instruction requires a grasp of both the pedagogical advantages and ethical ramifications.

METHODOLOGY

As seen in Figure 1, this systematic review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology, which consists of four steps: Identification, screening, eligibility, and inclusion. PRISMA's comprehensiveness and applicability to various investigations have led to its widespread adoption by researchers. Thus, the following are the study's goal and the systematic review procedure.

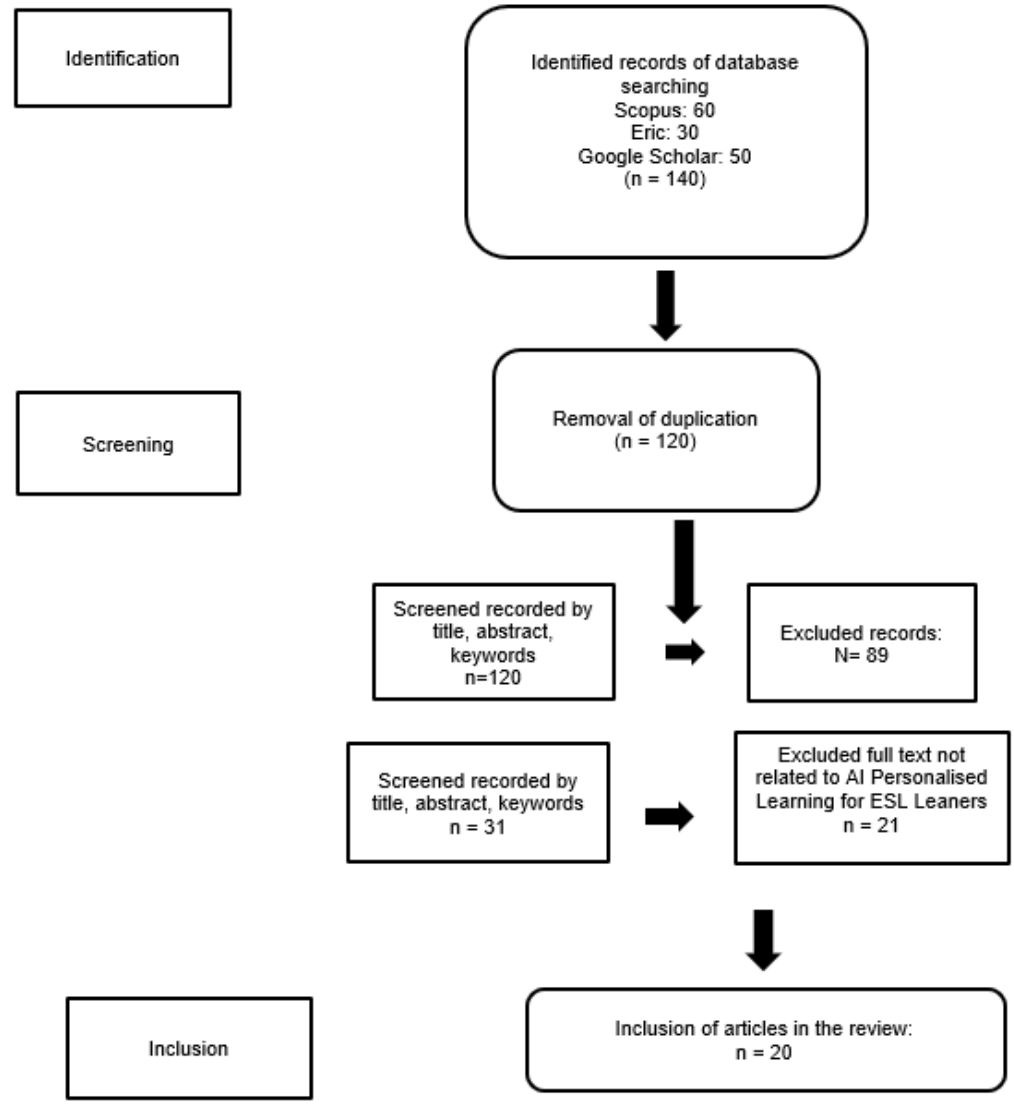

Figure 1. Systematic review using the PRISMA method

Identification

Three databases were taken into consideration for the applicability of this study during the identification step, as detailed in the PRISMA criteria. Google Scholar, Educational Resources Information Centre (ERIC), and Scopus were the databases. In order to take into account, the constructions intended for evaluation, the researcher created the key phrases. Each database has keywords that were specifically associated with AI Personalised Learning for ESL Leaners Table 1 below showed the search terms for every database.

Database	search string
Scopus	TITLE-ABS-KEY(“(“AI personalized learning” OR “artificial intelligence personalized learning” OR “AI adaptive learning” OR “artificial intelligence adaptive learning”) AND TITLE-ABS-KEY(“ESL learners” OR “English as a second language learners” OR “ELLs(English Language Learners)” OR “English language learners”) AND TITLE-ABS-KEY(“learner proficiency” OR “language proficiency”) AND TITLE-ABS-KEY(“learning styles” OR “cognitive styles”) AND TITLE-ABS-KEY(“learner needs” OR “individual learning needs” OR “personalized instruction”)
Eric	TS= (“Artificial Intelligence” OR “AI”) AND (“Personalized Learning” OR “Individualized Instruction” OR “Adaptive Learning”) AND (“ESL” OR “English as a Second Language” OR “ELL” OR “English Language Learners”) AND (“Language Proficiency” OR “Second Language Proficiency”) AND (“Learning Styles” OR “Cognitive Style”) AND (“Individual Needs” OR “Learner Characteristics”)
Google Scholar	AI personalized learning, ESL learners, learner proficiency, learning styles, learner needs

Table 1

Screening

The identifying phase was followed by the article screening phase. By comparing the articles across the three databases, the researcher eliminated any duplicates. After 20 pieces were removed at the first screening stage, 120 were left for additional examination. Out of these 120 titles, 89 papers were disqualified because their titles, abstracts, and keywords did not meet the screening requirements. Only 31 articles were left after the various degrees of selection, and they were filtered using the inclusion and exclusion criteria listed in Table 2 below. Only 20 potential papers were selected for this systematic review after a rigorous selection procedure based on the inclusion and exclusion criteria.

Criterion	Inclusion Criteria	Exclusion Criteria
Focus	Use of Artificial Intelligence (AI) in personalized/adaptive learning for ESL learners	Studies that do not involve AI in learning or focus on general learning methods without personalization
Context	English as a Second Language (ESL) learners	Non-ESL learners (e.g., native English speakers, other subject learners)
Adaptation Aspect	Materials adapted based on learners’ proficiency levels,	Materials that are static or not adapted to learners’ characteristics

	learning styles, and individual needs	
Sources	Peer-reviewed journal articles	Conference papers, theses, books, unpublished reports, reviews
Field of study	AI applications in ESL education and language learning	AI used outside education or in unrelated fields (e.g., business AI, healthcare AI)
Language	English written articles	Non-English written articles
Year of Publication	Published between 2014 -2025	Published before 2014

Table 2

Inclusion

The papers in the systematic review have a direct connection to AI Personalised Learning for ESL Learners. Table 3 displays the included research publications. Papers were chosen from Scopus, ERIC, and from Google Scholar, as shown in the table. Most of the study was carried out in higher education institutions like universities and colleges, concentrating on different educational fields.

Study	Database	Aim	Samples	Findings
Panwale et al. (2025)	Scopus	To investigate the influence of AI personalization (via the Google Gemini platform) compared to conventional online instruction	64 part-time MBA students at B. S. Abdur Rahman Crescent University, Chennai, India.	AI-personalized learning significantly enhances fluency, accuracy, and overall effectiveness but has limited impact on improving organizational aspects of communication.
Naseer et al. (2024)	Scopus	To evaluate how AI-driven adaptive learning platforms improve student learning outcomes, engagement, and satisfaction compared to traditional teaching methods.	300 students from a university in Faisalabad, Pakistan.	The study found that AI-driven personalized learning pathways significantly improved students' grades, engagement, and satisfaction compared to traditional methods, despite some technical and integration challenges
Wei L (2023)	Scopus	To examine the effects of AI-mediated language instruction on English learning achievement, L2 motivation, and self-regulated learning among EFL learners.	Two intact classes of university students (n=60)	AI-mediated instruction significantly improved EFL learners' English learning achievement, L2 motivation, and use of self-regulated learning strategies.
Hurskaya, V. (2023)	Scopus	To analyze the personalization of the educational process in teaching the English language, focusing on	Theoretical research paper	The study concludes that personalized learning, enhanced by AI's adaptability and interactivity, improves English language teaching by individualizing instruction and incorporating tools like chatbots.

		the use of artificial intelligence.		
Gligorea et al. -2023	Scopus	To review AI/ML use in e-learning for adaptive learning	Literature review (63 articles)	AI/ML algorithms personalize learning, enhancing engagement and performance
Ahmed L et al. -2025	Scopus	To review the effectiveness of AI tools (chatbots, adaptive teaching, etc.) on ESL learners' motivation and success.	35 articles published after 2022	AI tools can increase student motivation, personalized teaching, improve language skills.
Zakarneh BI et al (2025)	Scopus	To study how using ChatGPT in teaching affects student engagement, language skills, and tool usability.	301 English learners from Ajman University (UAE) and University of Ha'il (Saudi Arabia).	The study showed ChatGPT fits well with active, student-centered learning.
Nur Shahira MS (2025)	Scopus	To propose a conceptual framework linking global AI advancements with local ESL practices by focusing on the development of adaptive learning tools to meet the diverse needs of ESL learners.	Synthesizes existing literature on AI applications in language learning	Explored AI's potential to personalize learning, enhance language acquisition, and overcome barriers like the digital divide, yet emphasizes that effective implementation in local ESL classrooms necessitates addressing contextual factors such as internet access, teacher involvement, and cultural relevance.
Saadia GE et al -2023	Scopus	To review how machine learning (ML) is used to automatically detect learning styles and personalize e-learning based on individual learner needs.	48 studies published between 2015 and 2022 were systematically reviewed.	Machine learning can effectively personalize e-learning by automatically detecting students' learning styles, but more research is needed on deep learning methods.
Suraya Hashim et al (2022)	Scopus	To review and highlight recent research on technology, features, and trends of personalized learning environments that integrate AI into Malaysia's education system.	14 articles published between 2016 and 2022, sourced from SCOPUS and Web of Science databases.	The study indicates that AI is being used to personalize learning by adapting educational technology, teaching methods, and content to individual student needs.
Ali Rahmanipur et al (2025)	ERIC	To review research on how Natural Language Processing (NLP) affects personalized language learning for English learners, focusing on how NLP enhances learning by adapting to individual needs.	22 articles selected	NLP technologies effectively support personalized learning for English language learners by customizing content, offering immediate feedback, and providing adaptive learning paths.

Eman Alhusaiyan (2025)	ERIC	To examine the trends and advancements in AI-supported language learning over the past decade. The study also seeks to understand the effectiveness and challenges of AI-assisted language learning for both first- and second-language learners.	15 empirical research articles.	AI-supported technology can improve language learning outcomes, but it requires addressing challenges like dialogic competence and integrating teacher involvement.
Hasan Alisoy -2025	ERIC	To investigate the impact of AI-powered personalized learning on English as a Second Language (ESL) student outcomes.	120 university level ESL learners.	AI-powered personalized learning enhances ESL student outcomes by improving language proficiency and engagement, but challenges like bias and privacy need addressing.
Forough Amirjalili (2024)	ERIC	To investigate ESL teachers' views on the benefits and challenges of using ChatGPT for personalized language learning and to understand the effect of ChatGPT-based personalized learning assignments on students' grammar knowledge in Iranian classrooms.	Four Iranian English language teachers and 48 students from two secondary schools, along with 37 language instructors who participated in a pilot study survey.	ChatGPT and similar AI instruments have the potential to enhance personalized language learning.
Asim AZ (2024)	ERIC	The study explores how technological tools and platforms can create individualized learning experiences for English as a Second Language (ESL) students.	The paper is a comprehensive analysis of the use of technology in ESL classrooms (does not specify a sample group)	Technology has revolutionized EFL education by offering ways to personalize learning and increase student engagement.
Sahito (2025)	Google scholar	To investigate the effect of AI-assisted tools such as speech recognition, virtual tutors, and text-to-speech systems on the listening comprehension skills of ESL learners and to assess how effectively these tools enhance listening instruction.	60 ESL secondary school students	The study found that AI-assisted tools significantly enhanced ESL learners' listening comprehension skills by providing personalized, interactive, and real-time feedback experiences compared to traditional teaching methods.
Jegede (2024)	Google scholar	To explore how AI-driven tools impact English language learning by personalizing learning	200 students	AI-driven tools significantly enhanced students' English language learning by providing highly personalized experiences and real-time feedback, which led to improved

		experiences, providing instant feedback, and influencing learner perceptions.		engagement, faster language acquisition, and positive learner perceptions despite some concerns about technical issues and lack of human interaction.
Anjum Khan (2024)	Google scholar	This study aims to learn English with proper understanding by using Al.	300 participants	The utilization of Artificial Intelligence (Al) proves beneficial for English Language Learners (ELLs), and the results suggest that ELLs can effectively harness Al to ameliorate their overall communication skills.
Said Muhammad Khan (2024)	Google scholar	This study looks into how artificial intelligence (AI) incorporating tools have revolutionized the field of English as a Second Language (ESL) teaching in the context of Transnational Higher Education (TNE).	The study includes data from more than 10,000 ESL learners from various educational settings.	AI-powered tools have revolutionized ESL teaching, with language learning apps, adaptive learning platforms, and virtual tutors improving learner engagement and language proficiency.
Mohammad Ahmad Ibrahim (2023)	Google scholar	This study aims to assess the progress of EFL college students in Oman who utilized AI-based mobile learning for English language instruction.	The study employed a pretest-posttest non-equivalent control group design, consisting of two groups: a control group that did not utilize AI-based mobile learning and an experimental group that did.	The experimental group displayed significantly higher English competence compared to the control group, and students exhibited positive attitudes towards AI-based mobile learning.

Table 4

Data Analysis

Theme analysis was conducted to address the following study questions:

How is Artificial Intelligence (AI) used to support personalized learning in ESL Context?

What are the ethical considerations and challenges associated with the implementation of AI in ESL education

The researcher conducted the analysis by classifying the themes according to the study questions and evaluating the articles' contents. For the first study question, the themes were categorized by the learner factors that AI-driven systems adapt to (e.g., proficiency levels, learning styles, individual learning goals). For the second study question, the articles were arranged according to the specific elements of adaptive material design, such as content sequencing, difficulty adjustment, and modality variation, found in AI-personalized ESL platforms.

RESULTS

RQ1- How is Artificial Intelligence (AI) used to support personalized learning in ESL Context?

According to the systematic review, it can be concluded that, AI Personalised learning platforms that adapts materials by offering tailored learning experiences that adjust to each student's ability, learning preferences, and unique needs all of which traditional approaches sometimes miss because of their one-size-fits-all methodology AI-personalized learning platforms provide a striking contrast to traditional ESL training. A dynamic and interactive learning environment that improves language acquisition and engagement is fostered by AI-driven

tools that analyse learner data to generate personalised learning routes and provide instant feedback. In addition to meeting the various requirements of language learners, this personalisation fosters learner autonomy, motivation, and collaborative learning signaling a dramatic departure from traditional, homogenous educational paradigms in favour of more learner-oriented strategies.

Ways AI enhances personalized learning	**Author(s) and Year**
AI-powered tools offer customized, engaging learning experiences and enhance language acquisition.	Naseer et al, 2024
These technologies analyze learner data to create tailored pathways aligned with individual objectives and needs.	Ahmed L et al., 2025
AI-driven systems provide immediate feedback on language construction and skill progression.	Anjum Khan, 2024
AI technologies offer personalized feedback, simulations, and interactive games to revolutionize language learning and boost student motivation and engagement.	Said Muhammad Khan, 2023
AI facilitates collaborative learning by connecting learners from diverse backgrounds, promoting social interaction and knowledge exchange.	Ahmed L et al, 2025

AI's ability to tailor the learning experience, unlike traditional methods that often use a one-size-fits-all approach. AI platforms can adapt to individual learner's needs, making learning more engaging and effective. Other than that, AI's capability to analyze learner data and create personalized learning paths is a clear advantage over traditional methods that lack this adaptability. AI platforms offer prompt feedback, a feature often lacking in traditional classrooms where feedback may be delayed or less individualized. Other than that, AI can transform language learning by making it more interactive and engaging through simulations and games, which can increase student motivation. Traditional ESL instruction may rely more on conventional methods like lectures and textbooks. It is also concluded that AI can create opportunities for learners to connect and collaborate, enriching the learning experience through social interaction. Traditional classrooms might offer collaborative learning, but AI can expand the scope of interaction.

The table essentially demonstrates how AI-personalized learning platforms offer customisation, adaptability, instant feedback, engaging experiences, and collaborative opportunities all of which enhance overall language proficiency and how they differ from and enhance traditional ESL instruction.

RQ2- What are the ethical considerations and challenges associated with the implementation of AI in ESL education.

While there are many advantages of using AI in ESL instruction, there are also moral questions and difficulties, such as the necessity of ensuring that all students have equal access to these tools in order to prevent the digital divide from growing. Another major worry is algorithmic bias, which occurs when AI systems unintentionally reinforce or magnify social prejudices, producing unfair or discriminating results for particular learner groups. Data privacy is also crucial; in order to safeguard students' security and confidentiality, AI systems' gathering and usage of student data must be managed carefully. Furthermore, even though AI might improve individualised learning, it's critical to acknowledge that instructors play an indispensable role in offering sociocultural and emotional support roles that AI cannot completely replace.

Ethical Consideration/Challenge	**Author(s) and Year**
Equitable access to AI tools is necessary to prevent the digital divide.	Suraya Hashim et al, 2022
Algorithmic bias can lead to unfair or discriminatory outcomes.	Alisoy, 2025
Data privacy must be protected when using AI systems.	Alisoy, 2025,
The irreplaceable role of teachers in providing socio-cultural and emotional support.	Alisoy, 2025

The ethical considerations and challenges surrounding the implementation of AI in ESL education are multifaceted and critical to address for responsible integration. Ensuring fair access to AI technologies is one of the main issues. Even while AI has significant advantages, if these tools are not available to all students, there is a chance that the digital gap could worsen. This means that in order to stop uneven access from escalating educational gaps, efforts must be made to offer resources and assistance to students from a variety of socioeconomic origins, places, and skill levels. Algorithmic prejudice is another important ethical dilemma. AI systems have the potential to reinforce or even magnify social prejudices if the data they are trained on reflects those biases. This might lead to AI systems in ESL instruction that unjustly evaluate or teach students from particular language or cultural backgrounds. Data privacy is another crucial ethical factor. Large volumes of student data are gathered and analysed by AI systems, which raises questions about how this data is utilised, kept, and safeguarded. To protect student information and keep their confidence, it is imperative to have strong data privacy rules and procedures.

Lastly, it is critical to recognise the indispensable role that educators play.The sociocultural and emotional components of education that human educators give cannot be entirely replaced by AI, even though it may offer individualised instruction and assistance. The goal of integrating AI into ESL instruction should be to enhance, not to replace, the vital role that educators play in creating a welcoming and inclusive classroom.

DISCUSSION

This systematic literature review (SLR) aimed to explore the role of AI in ESL education, focusing on two key areas: the comparison of AI-personalized learning platforms with traditional instruction and the ethical considerations surrounding AI implementation. According to the analysis, there is a clear trend towards AI-personalized learning tools, which have several benefits over conventional ESL training. The different demands of learners, who display a range of competence levels, learning styles, and personal objectives, are sometimes difficult for traditional ESL techniques to meet. AI solves this by offering personalised educational opportunities. Learner data is analysed by AI-driven technologies to provide customised routes that adjust to each learner's goals and requirements. Research shows that AI platforms can personalise instruction, which enhances learning results and student engagement.

Numerous facets of language learning can be improved by AI, according to studies. For instance, AI-powered tools offer compelling learning experiences, while AI-driven systems provide quick feedback on language creation and skill advancement. AI tools increase student motivation by providing interactive games, simulations, and tailored feedback. This is in line with studies showing AI's ability to evaluate English proficiency and offer immediate feedback.

Additionally, by bringing together students from various backgrounds, AI fosters social interaction and collaborative learning. Together with AI's capacity for adaptation, this collaborative element signifies a dramatic departure from conventional, homogenous educational methodologies in favour of learner-centred strategies.

There are significant ethical issues and difficulties in using AI in ESL instruction. A major issue is making sure AI technologies are accessible to anyone. The digital gap might grow if AI technologies are not available to all students. Lastly, even though AI allows for personalised learning, it is important to acknowledge the crucial role that instructors play. Teachers offer emotional and sociocultural support that AI cannot completely replace. The intention is to enhance, not replace, the function of the instructor.

AI-personalized learning systems offer engaging, responsive, and adaptable learning experiences that are customised to each learner's unique profile, they perform noticeably better than traditional ESL training. The varied requirements, learning styles, and skill levels of students are difficult for traditional techniques to meet since they frequently rely on textbooks, set curriculum, and generalised assessments (Brown, 2007; Oxford, 2003). AI-driven systems, on the other hand, use learner data to dynamically personalise material, providing scaffolding and real-time feedback that adapt to learners' changing objectives and skills (Luckin et al., 2016; Naseer et al., 2024). Deeper learner engagement and improved language acquisition are fostered by this real-time response. Furthermore, as compared to passive, lecture-based training, AI technologies like simulations,

interactive games, and adaptive multimedia material greatly improve motivation and retention (Crompton & Burke, 2023; Said Muhammad Khan, 2023). AI's ability to foster learner autonomy through self-paced modules and immediate, personalised feedback also supports long-term motivation and self-regulated learning (Wei, 2023; Anjum Khan, 2024). Additionally, AI enhances cooperation chances by connecting students globally, promoting social interaction and cross-cultural exchange outside of the traditional classroom (Ahmed et al., 2025; Wang et al., 2023). These findings demonstrate how AI has the potential to transform ESL learning and how, with proper application, it may surpass conventional teaching techniques.

CONCLUSION

In contrast to traditional training, this systematic literature review looked at how AI-personalized learning platforms improve ESL learners' language fluency. It also investigated the moral ramifications of using these technologies in educational settings. According to the results, systems with AI assistance offer a more dynamic, responsive, and learner-centred experience. Compared to traditional teacher-centered techniques, artificial intelligence (AI) promotes better engagement, motivation, and autonomy by tailoring information to each learner's skill level, learning preferences, and individual requirements.

Deeper understanding and skill development are promoted by AI systems' support for multimodal resources, personalised learning pathways, and real-time feedback. Artificial Intelligence (AI) offers adaptable, customised experiences that assist handle the great variability among ESL learners, in contrast to traditional ESL approaches that frequently rely on static materials and generalised training. Additionally, elements like interactive activities, collaboration tools, and simulations provide an engaging atmosphere that boosts student confidence and language learning.

But there are also serious ethical issues with using AI into ESL instruction. Important issues include protecting student data and privacy, preventing algorithmic bias, preserving the essential human component in education, and guaranteeing fair access to AI technologies to prevent the digital divide from growing. AI should complement teachers and improve their capacity to provide inclusive, individualised teaching rather than take the place of them.

From a policy perspective, educational institutions must make investments in the development of ethical AI, supply infrastructure and teacher training, and guarantee that deployment is appropriate for the given environment. AI should be carefully incorporated into education while educators continue to play a key role in promoting socioemotional learning and cultural relevance.

To sum up, AI-personalized learning has a lot of potential to revolutionise ESL instruction. It may improve student results, boost motivation, and provide more inclusive, flexible learning environments when applied sensibly and morally. Future studies should keep looking at the best methods to help different learners in equitable and relevant ways by striking a balance between technological innovation and human direction.

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