

From Chalk to Code: Transforming English Language Teaching Through AI-Integrated, Learner-Centric Pedagogy

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Abstract:

Artificial intelligence is transforming English language teaching by introducing new possibilities for personalised instruction, automated feedback, conversational practice and learner-controlled language development. However, the integration of AI into English language teaching remains uneven, with existing research often focusing on individual technologies rather than on the broader pedagogical transformation created by AI. This conceptual study aims to develop a framework explaining how AI-integrated, learner-centric pedagogy can transform English language teaching by enhancing personalised learning, learner autonomy, engagement, feedback and language-learning outcomes. The study adopts a structured literature review methodology and synthesises peer-reviewed research on artificial intelligence, generative AI, intelligent tutoring systems, conversational agents and AI-supported language learning. The review indicates that AI can expand opportunities for individualised practice, provide immediate formative feedback, facilitate conversational interaction and support learner self-regulation. However, the literature also identifies challenges related to AI dependence, inaccurate outputs, academic integrity, teacher readiness, privacy and unequal access. Based on the reviewed literature, the study proposes an AI-Integrated Learner-Centric ELT Framework in which AI capabilities influence language-learning outcomes through personalised learning, intelligent feedback, conversational practice and learner autonomy, while teacher-AI orchestration provides an essential pedagogical layer. The study argues that effective AI integration requires a shift from technology adoption towards pedagogically guided human-AI collaboration. The proposed framework provides a foundation for future empirical research examining the conditions under which AI can contribute to sustainable and learner-centred English language education.

Keywords: Artificial intelligence; English language teaching; learner-centric pedagogy; generative AI; learner autonomy; personalised learning; AI-supported language learning; teacher-AI collaboration

1. Introduction

English language teaching has undergone substantial changes as educational technologies have moved from supplementary classroom resources towards increasingly interactive learning environments. The

emergence of artificial intelligence (AI), particularly generative AI and conversational systems, represents a further shift because these technologies can generate language, respond to learner questions, provide feedback, simulate communication and support individualised learning. This development is particularly relevant to English language education, where meaningful interaction, repeated practice and timely feedback are important components of language development. Recent systematic research indicates that AI applications in English language learning now encompass chatbots, intelligent tutoring systems, automated feedback platforms, pronunciation tools and adaptive learning technologies, reflecting a broader movement towards technology-mediated and personalised language learning (Peña-Acuña & Durão, 2024; Uygun & Demir, 2026).

The expansion of AI in English language teaching has been accompanied by growing empirical evidence concerning its effectiveness. A meta-analysis by Fathi et al. (2024) examined 40 empirical studies involving 3,290 participants across ten countries and found a significant overall effect of AI on English language learning achievement. More recently, Ekizer (2025) synthesised 23 experimental and quasi-experimental studies and reported a significant overall effect of AI-based interventions on EFL learning outcomes, with particularly positive results reported for writing accuracy, speaking fluency and affective outcomes. At the same time, the high heterogeneity reported in the meta-analysis indicates that the effectiveness of AI is not uniform across technologies, learners, instructional settings and measurement approaches (Ekizer, 2025).

The growing evidence base also demonstrates that AI is being used for purposes that extend beyond language correction. A recent systematic review of 708 publications on AI in EFL learning identified 103 studies for detailed analysis and showed that AI technologies are being applied across different language-learning activities and educational contexts. The review highlights the increasing role of AI in supporting language practice while also pointing to important questions concerning the suitability of different technologies for different learners and educational settings. Similarly, a 2026 systematic review of AI in higher education English language teaching and learning examined 101 empirical studies retrieved from Web of Science, Scopus, ScienceDirect and ERIC. The review found that AI tools commonly function as teaching assistants, learning companions and assessment or feedback providers, while also identifying concerns relating to over-reliance, feedback quality, cultural adaptability, equity and ethics (Xodabande, 2026).

These developments are particularly significant when considered from a learner-centric perspective. Learner-centred English language teaching places greater emphasis on learner participation, responsibility, individual needs and autonomy. The movement towards learner autonomy has also changed teachers' roles from being primarily sources of information towards facilitators, advisers and guides who support learners in becoming more independent (Oxford, 1997). Within this pedagogical orientation, AI has the potential to provide learners with greater control over the pace, frequency and nature of language practice. AI-supported environments can allow learners to request explanations, practise language repeatedly, receive immediate feedback and revise their work without depending exclusively on scheduled classroom interaction.

Recent empirical research provides emerging support for this connection between AI and learner autonomy. For example, Kök (2026) found that explicit generative AI literacy training among 12th-grade EFL learners significantly increased AI literacy, ChatGPT use for language learning and learner autonomy. The study also indicated that structured training supported more informed and self-directed

engagement with generative AI. Similarly, research on ChatGPT-supported EFL writing has shown that the contribution of generative AI to learner autonomy depends on learners' AI literacy and ethical awareness rather than simply on technological familiarity (Hamamra et al., 2026). These findings suggest that AI availability alone is insufficient. Learners need the knowledge and judgement required to use AI as a learning resource rather than as a substitute for their own intellectual and linguistic effort.

The relationship between AI and learner autonomy is therefore complex. AI can facilitate self-directed practice, but excessive dependence on AI-generated responses may undermine independent learning. Recent research on AI-supported English learning has identified a distinction between increased behavioural engagement with AI and deeper forms of self-regulated autonomy. Learners may use AI frequently without necessarily developing the ability to verify, evaluate or critically interpret AI-generated feedback. This distinction is important for learner-centric pedagogy because genuine autonomy requires learners to exercise judgement over their learning decisions rather than simply delegate those decisions to an AI system.

The role of teachers consequently remains central. AI can provide immediate responses and personalised assistance, but teachers remain responsible for designing meaningful learning activities, evaluating learner progress and helping students interpret AI-generated information. A recent thematic synthesis of empirical research on English language teachers' use of ChatGPT identified teacher creativity, reflective practice, professional AI competence, student engagement and ethical concerns as important themes in the emerging literature. The review also highlights the need for systematic AI literacy and pedagogical preparation among teachers (Xodabande, 2026). Thus, the integration of AI should not be conceptualised as a replacement of teachers with automated systems. Rather, it requires a reconfiguration of the relationship between teachers, learners and technology.

This issue becomes particularly important because AI introduces risks alongside its pedagogical opportunities. Generative AI systems can produce inaccurate or misleading information, and their use raises concerns regarding academic integrity, authorship and assessment. In English language learning, there is also a risk that learners may rely on AI to generate written or spoken language instead of developing their own linguistic competence. Systematic reviews of ChatGPT in ESL and EFL education have consequently emphasised both its potential benefits and the need for appropriate pedagogical guidance. A systematic review of 70 empirical studies published following the introduction of ChatGPT found substantial interest in its applications for ESL/EFL education while also identifying areas requiring further investigation (Kohnke et al., 2024).

The existing literature therefore presents an important research tension. On one side, AI can increase personalisation, provide immediate feedback, expand opportunities for language practice and support learner autonomy. On the other side, unstructured AI use can create dependence, reduce independent language production and generate concerns about accuracy, ethics and academic integrity. The challenge is consequently not simply to determine whether AI should be used in English language teaching. The more important issue is to determine how AI can be pedagogically integrated so that technological assistance strengthens rather than weakens learner-centred learning.

Recent reviews also indicate that the research field remains fragmented. Studies have examined specific AI technologies, individual language skills, learner perceptions and particular learning outcomes, but there remains a need for broader conceptual integration. The latest systematic review evidence shows considerable variation in the types of AI technologies examined, learner populations, language skills and

research designs (Uygun & Demir, 2026; Xodabande, 2026). This fragmentation creates a need for a framework that connects AI capabilities with the pedagogical processes through which learners actually develop English language competence.

Against this background, the present study focuses on the transformation of English language teaching from traditional teacher-directed instruction towards AI-integrated, learner-centric pedagogy. Rather than treating AI as an independent technological intervention, the study conceptualises AI as a pedagogical resource that can influence learning through personalised instruction, intelligent feedback, conversational practice and learner autonomy, while recognising the continuing importance of teacher mediation and ethical governance.

Accordingly, this study aims to develop a conceptual framework explaining how AI-integrated, learner-centric pedagogy can transform English language teaching by enhancing personalised learning, learner autonomy, engagement, feedback and language-learning outcomes. The study contributes to the emerging AI-in-ELT literature by bringing together technological and pedagogical perspectives. It specifically shifts attention from the question of whether AI improves English learning towards the more consequential question of how AI can be integrated into learner-centric pedagogy while preserving learner agency and the pedagogical role of teachers.

2. Literature Review

2.1 Artificial Intelligence and the Transformation of Language Education

The integration of artificial intelligence into education has developed from relatively specialised intelligent tutoring systems towards more interactive and generative technologies. Earlier AI applications in education primarily focused on intelligent tutoring, prediction, assessment and adaptive learning. Zawacki-Richter et al. (2019), in a systematic review of AI applications in higher education, identified four broad areas of application: profiling and prediction, assessment and evaluation, adaptive systems and intelligent tutoring. The review also highlighted the limited involvement of educators in AI research and called for stronger pedagogical consideration in the development and implementation of AI systems.

The development of generative AI has expanded these possibilities considerably. Large language models can generate text, explain concepts, simulate dialogue and provide responses to learner inputs. Kohnke et al. (2023) argued that ChatGPT has significant potential for language teaching and learning because it can support language production, feedback and learning activities, while also creating new requirements for digital and AI competencies among teachers and learners.

The emergence of generative AI has therefore shifted the role of AI from a background technological system towards a direct participant in learning interactions. This shift is particularly relevant to English language teaching because language learning depends on interaction, feedback and opportunities for meaningful language production.

2.2 AI in English Language Teaching and Learning

The empirical literature on AI-supported English language learning has expanded rapidly. Fathi et al. (2024) conducted a meta-analysis involving 40 empirical studies, 3,290 participants and 55 effect sizes across ten countries. The studies were retrieved from five academic databases, including Scopus and Web of Science. The findings indicated a high overall effect of AI on English language learning achievement,

although the magnitude of effects varied according to several contextual and methodological characteristics.

A further meta-analysis by Ekizer (2025) synthesised 23 experimental and quasi-experimental studies published between 2019 and 2025. The study reported a significant overall effect of AI-supported interventions on EFL learning outcomes, particularly for writing accuracy, speaking fluency and motivation. However, the very high heterogeneity reported by the study indicates that AI effectiveness cannot be treated as uniform across learning environments and learner populations.

A broader meta-analysis of AI in second-language learning similarly reported positive effects across different learning contexts. The findings suggested that intervention duration, instructional environment, type of AI tool and social-emotional factors can influence outcomes. Personalised and adaptive AI applications were particularly relevant to language learning effectiveness.

More recent evidence further strengthens this position. A multilevel meta-analysis of 46 empirical studies reported a statistically significant medium-to-large overall effect of AI on language learning, with vocabulary, reading, writing, listening and speaking all showing positive effects. Importantly, the study found that AI appeared more effective as a supplement to teaching than as a replacement for traditional instruction.

These findings suggest that AI has measurable pedagogical potential, but the evidence does not support a technology-deterministic interpretation. The effectiveness of AI depends on how the technology is embedded within instructional processes.

2.3 Systematic Reviews of AI in EFL and ESL Education

The rapid growth of empirical research has generated several systematic reviews. Lo et al. (2024) reviewed 70 empirical studies examining ChatGPT in ESL/EFL education. Their review identified increased learning opportunities, personalised learning and teacher support as important affordances. At the same time, incorrect information, privacy concerns and academic dishonesty were identified as important limitations. The review also noted that writing received substantially more attention than reading, speaking and listening.

A separate systematic review of the first year of ChatGPT-related language education research identified 36 studies published between November 2022 and November 2023. The review demonstrated rapid international growth in research and noted the strong representation of higher education and ethical concerns.

Balcı's (2024) systematic review examined 21 studies retrieved from Web of Science and concluded that ChatGPT had positive implications for EFL learning experiences and teaching practices, while also identifying limitations requiring further investigation.

Peña-Acuña and Durão (2024) reviewed research concerning AI-supported English learning for prospective teachers. Their review demonstrates that AI applications are increasingly being examined not only as learner tools but also in relation to teacher preparation and future teaching practices.

More recent evidence shows continued expansion of the field. Uygun and Demir (2026) conducted a PRISMA-based systematic review of AI in EFL and ESL education between 2023 and 2025. Their findings reinforce the rapid development of the field while identifying continuing gaps in educational levels, research contexts and methodological approaches.

A systematic review of 708 publications published between 2019 and 2024 retained 103 studies for detailed analysis. It found a strong concentration on higher education and comparatively limited research involving elementary and secondary learners.

The evidence therefore suggests that AI research in English language education has grown rapidly, but its development has not been evenly distributed across learner groups, language skills or educational contexts.

2.4 Generative AI and English Language Teaching

The arrival of generative AI has introduced a qualitatively different form of technological support. Earlier language technologies often performed specific functions such as scoring, correction or dialogue generation. Generative AI can perform several of these functions through a single conversational interface. Deng and Jamaludin (2026) reviewed 51 studies selected from 284 records retrieved from Scopus and Web of Science. Their findings showed that GenAI research in EFL has concentrated heavily on higher education, East Asia and the Middle East, with writing receiving considerably more attention than speaking, reading and grammar. They also found divergent evidence concerning writing effectiveness and reported that students frequently preferred teacher feedback to GenAI feedback.

A broader systematic review of empirical GenAI research in language learning and teaching analysed 144 peer-reviewed articles retrieved from Web of Science, Scopus and ERIC. The review identified rapid growth in empirical research and a transition from exploratory work towards more systematic investigation.

Qiao et al. (2025) reviewed empirical studies of AI technologies in language learning and found that intelligent tutoring and intelligent assessment and feedback represented major areas of application. However, adaptive learning, personalisation and AI-supported peer interaction received considerably less attention. The authors also noted that relatively few studies were explicitly grounded in educational theories and that methodological limitations prevented definitive conclusions about effectiveness.

These findings reveal a significant gap. AI research has established the technological potential of these systems, but the pedagogical mechanisms through which AI contributes to learner-centred language development require greater theoretical integration.

2.5 Learner-Centric Pedagogy and Learner Autonomy

Learner-centric pedagogy is closely connected with the concept of learner autonomy. Little (2007) conceptualised language learner autonomy in terms of learners taking responsibility for their learning and argued that autonomy and language proficiency should develop together. Learner involvement, reflection and meaningful target-language use are central to this perspective.

Little (2022) further conceptualised language learner autonomy as a dynamic process in which learners plan, implement, monitor and evaluate their own learning. This perspective is particularly relevant to AI-supported language learning because AI can potentially provide learners with tools for each of these activities.

AI-supported learning can therefore extend learner-centred pedagogy by giving students access to immediate explanations, practice activities and feedback. However, technological access should not be confused with autonomy. Autonomy requires learners to exercise judgement and maintain responsibility for learning decisions.

This distinction becomes especially important with generative AI. When students ask AI to complete learning tasks on their behalf, technological convenience can conflict with the development of independent competence.

2.6 AI and Learner Autonomy

Recent research provides increasing evidence concerning the relationship between AI and learner autonomy. Mohebbi (2024) systematically reviewed 18 peer-reviewed studies published between 2009 and 2024 and examined how AI tools can support learner independence and self-regulation in language education. The review indicates that AI can provide opportunities for independent practice and self-regulated learning, although the nature and quality of autonomy depend on how learners interact with the technology.

Slamet (2024) examined perceptions of ChatGPT as a digital language learning assistant and reported that the technology can support language learning across several dimensions. However, the study also highlights the need to consider the limitations of AI when it is used as an independent learning resource. More direct evidence comes from Hamamra et al. (2026), who investigated AI literacy and learner autonomy in ChatGPT-supported EFL writing. Their findings suggest that autonomy is not simply independence from technological support. Instead, autonomous learners use AI strategically, question its outputs and retain control over their own writing decisions.

Kundu (2025) similarly examined AI-supported autonomy in school-based EFL learning in Global South contexts. The review of 22 empirical studies indicates that AI may provide opportunities for greater learner independence while also highlighting contextual constraints related to resources and implementation. These findings support a more nuanced conceptualisation of AI-enabled autonomy. AI should facilitate learner agency rather than replace learner decision-making.

2.7 AI and Personalised Learning

Personalisation is one of the most frequently identified benefits of AI in language education. Unlike fixed digital resources, AI systems can respond dynamically to learner inputs.

Lo et al. (2024) identified personalised learning as one of the important affordances of ChatGPT in ESL/EFL education. Qiao et al. (2025), however, found that profiling, prediction and adaptive personalisation were less developed areas of AI language-learning research compared with intelligent tutoring and feedback.

This distinction is important. The capacity of a generative AI system to produce different responses does not automatically constitute pedagogical personalisation. Genuine personalisation requires adaptation to learner characteristics, learning goals, proficiency levels and performance.

Consequently, future AI-integrated ELT models should distinguish between responsive interaction and pedagogically meaningful personalisation.

2.8 AI-Supported Writing and Automated Feedback

Writing has received substantial attention in AI-supported language education. Automated writing evaluation predates generative AI and has traditionally been used to provide scores and feedback on second-language writing.

Warschauer and Ware (2006) identified automated writing evaluation as a potential response to the substantial time required to evaluate multiple drafts of student writing. Their work also highlighted the need to investigate how automated evaluation is actually integrated into classroom instruction.

Stevenson (2016) subsequently reviewed the integration of automated writing evaluation into classroom writing instruction and emphasised that the pedagogical use of automated feedback requires attention beyond technical scoring accuracy.

Recent research extends these concerns to generative AI. Guo and Wang (2024) investigated ChatGPT's potential to support teacher feedback in EFL writing, demonstrating the growing relevance of generative AI for writing pedagogy and feedback processes.

Woo et al. (2024) examined EFL students learning composition with ChatGPT and investigated motivation, cognitive load and satisfaction. Their findings demonstrate that ChatGPT-supported writing should be considered not only in terms of writing output but also in relation to students' learning experiences.

A 2026 systematic review of GenAI for automated writing evaluation reported that GenAI systems perform relatively strongly in areas such as grammar and coherence but face greater difficulties with higher-order writing dimensions. The review also identified concerns regarding fairness, validity, equity and ethical assessment.

These findings suggest that AI feedback is most appropriately viewed as a formative resource rather than a complete substitute for teacher judgement.

2.9 AI-Supported Speaking and Conversational Learning

Speaking represents another important application of AI because conversational systems can provide learners with opportunities for repeated interaction.

Fryer and Carpenter (2006) examined bots as language learning tools and identified the potential of automated conversational agents to create additional opportunities for language practice.

Bibauw et al. (2019) subsequently synthesised research on dialogue-based computer-assisted language learning and developed a conceptual framework for understanding systems that allow learners to communicate with computer-based conversational agents.

Bibauw et al. (2022) conducted a meta-analysis of dialogue-based CALL and found a significant medium effect on second-language proficiency development. Their analysis included 17 meta-analysable studies and 100 individual effect sizes.

More recent research has focused specifically on AI-powered chatbots. A systematic review of 24 studies examining AI chatbots for EFL speaking practice found growing interest in conversational AI and identified speaking practice as an important emerging area of language technology research.

Lyu et al. (2025) subsequently conducted a meta-analysis of chatbot-enhanced language learning and reported a medium overall effect on second-language learning. The authors emphasised the value of conversational interaction for providing opportunities for target-language use.

These findings indicate that conversational AI may be particularly compatible with learner-centric pedagogy because learners can initiate interactions, repeat activities and control the pace of practice.

2.10 AI and Reading Development

Compared with writing and speaking, AI-supported reading has received less empirical attention. Lo et al. (2024) specifically noted that reading, speaking and listening were under-researched relative to writing in the early ChatGPT literature.

Recent empirical research is beginning to address this imbalance. A quasi-experimental study of Chinese secondary school EFL learners examined an AI chatbot designed for reading and reported effects on foreign-language reading anxiety and reading performance. The study compared a chatbot-supported group with students receiving traditional teacher support.

The emerging literature suggests that AI can support reading through interactive explanations, comprehension questions, vocabulary assistance and personalised scaffolding. However, the evidence base remains less mature than that for writing.

This represents an important research gap because learner-centric ELT requires attention to integrated language development rather than overemphasis on one skill.

2.11 AI, Motivation and Engagement

Learner engagement and motivation represent important dimensions of learner-centric pedagogy. AI can potentially influence these outcomes through immediate responses, personalised interaction and increased opportunities for practice.

Ekizer (2025) reported positive affective effects of AI-supported EFL interventions, including improvements in motivation, engagement and enjoyment and reductions in anxiety. However, the substantial heterogeneity in the evidence indicates that these outcomes depend on contextual and methodological conditions.

A more recent meta-analysis focusing specifically on GenAI and motivation synthesised 24 empirical studies and 47 effect sizes involving 7,075 participants. The study found a moderate and statistically significant overall effect of GenAI-supported interventions on motivation. The effects were stronger for dimensions such as the Ideal L2 Self, L2 learning experience and self-efficacy.

These findings suggest that AI may contribute to learner-centred pedagogy not only through cognitive support but also through affective mechanisms.

2.12 AI and Teacher Roles

The integration of AI also changes the role of teachers. AI can perform certain repetitive functions, but teachers remain responsible for instructional design, contextualisation and evaluation.

Zawacki-Richter et al. (2019) identified limited consideration of educators in much of the early AI-in-higher-education literature.

This issue remains relevant in contemporary language education. A study of 46 English language teachers from different countries found that teachers recognised ChatGPT's potential for personalised and dynamic learning but also expressed concerns regarding linguistic accuracy, overreliance and limitations in speaking and listening development. The study further emphasised the importance of professional development and curriculum adaptation.

Mabuan (2024), based on research involving 115 English language teachers in Metro Manila, similarly identified potential benefits of ChatGPT for vocabulary development, writing practice, communication

and conversational practice, while reporting concerns relating to plagiarism, contextual limitations and information reliability.

Derakhshan (2024) examined the perceptions of 30 research-active EFL teachers and described ChatGPT as a double-edged technology. Teachers identified personalised learning, learner autonomy and workload reduction as potential benefits, while also expressing concerns about creativity, academic integrity, cheating and misinformation.

A systematic review by Eedelouei (2026) further examined factors influencing language teachers' judgements and decisions concerning GenAI. The review emphasised teacher agency and identified professional development as an important condition for informed AI-related decision-making.

Thus, the literature increasingly supports a teacher-AI partnership model rather than a teacher replacement model.

2.13 AI Literacy as a Condition for Learner-Centric ELT

The effective integration of AI requires more than technical access. Learners and teachers need AI literacy. Kohnke et al. (2023) argued that teachers and learners require appropriate digital competencies to use ChatGPT effectively and ethically.

Hamamra et al. (2026) provide stronger empirical support for this position. Their qualitative study demonstrates that AI literacy can shape how learners interact with ChatGPT. Learners with stronger AI literacy were more likely to question outputs, use AI dialogically and retain responsibility for final decisions.

This suggests that AI literacy can act as an enabling condition for learner autonomy. Without AI literacy, personalisation may become dependence, feedback may become unquestioned correction and generative assistance may become substitution for learner production.

2.14 Ethical Challenges and Academic Integrity

AI-integrated ELT also raises significant ethical concerns.

Lo et al. (2024) identified incorrect information, privacy leakage and academic dishonesty among the principal concerns associated with ChatGPT in ESL/EFL education.

Alsaedi's systematic review of ChatGPT and EFL/ESL writing similarly identified overreliance, reduced motivation, learning loss, inconsistent feedback and academic integrity as major concerns.

These concerns have direct implications for learner-centric pedagogy. If students use AI to generate complete assignments, the technology may improve the quality of the submitted product while reducing opportunities for genuine language development.

The challenge therefore lies in designing learning activities in which AI supports the process of learning rather than simply producing the final product.

Assessment must consequently become more process-oriented. Drafting, reflection, revision, oral explanation and documentation of AI use can provide stronger evidence of actual learning than final written products alone.

2.15 Research Gaps in Existing Literature

The literature reveals several important gaps.

First, research remains heavily concentrated in higher education. The 2026 systematic review of EFL AI research found relatively limited evidence from elementary and secondary education.

Second, writing remains disproportionately represented. Deng and Jamaludin (2026) found that writing dominated GenAI research, while speaking, reading and grammar received less attention.

Third, the theoretical foundation of AI language-learning research remains underdeveloped. Qiao et al. (2025) found that relatively few studies explicitly grounded AI interventions in educational theories.

Fourth, methodological limitations remain important. Qiao et al. (2025) noted the limited use of rigorous experimental designs, while Ekizer (2025) identified substantial heterogeneity across existing studies.

Fifth, the relationship between AI use and genuine learner autonomy requires further investigation. Recent research suggests that AI literacy and learner agency are important, but the long-term effects of AI use on independent language-learning capacity remain unclear.

Sixth, teacher-AI orchestration remains insufficiently theorised. Existing research increasingly demonstrates that teacher mediation matters, but there is limited consensus regarding how teachers should coordinate AI, learner activity and assessment.

Finally, the literature has not yet adequately integrated AI capabilities, learner-centric processes and learning outcomes into a single conceptual framework. This represents the principal gap addressed by the present study.

3. Methodology

This study adopts a structured literature review methodology to develop a conceptual understanding of AI-integrated, learner-centric pedagogy in English language teaching. The literature search was conducted using Scopus and Web of Science, as these databases provide extensive coverage of peer-reviewed research in education, applied linguistics and educational technology. The search strategy combined keywords and Boolean operators including “*artificial intelligence*,” “*generative AI*,” “*ChatGPT*,” “*AI chatbot*,” “*English language teaching*,” “*EFL*,” “*ESL*,” “*learner-centred pedagogy*,” “*learner autonomy*,” “*personalised learning*,” “*AI feedback*,” and “*language learning*.” The search focused primarily on peer-reviewed journal articles published between 2019 and 2026, reflecting the rapid development of contemporary AI applications in language education, while selected earlier studies were retained where they provided established theoretical foundations for learner autonomy, computer-assisted language learning and automated feedback. Studies were included when they directly examined AI applications, AI-supported pedagogy, learner autonomy, engagement, feedback, language-learning outcomes or teacher-AI interaction within English language education. Editorials, non-peer-reviewed material, duplicate records, studies unrelated to language learning and papers lacking sufficient methodological or conceptual relevance were excluded. The identified literature was screened according to title, abstract and full-text relevance, followed by thematic analysis of the selected studies. The analysis focused on recurring themes concerning AI-enabled personalisation, learner autonomy, learner engagement, intelligent feedback, conversational practice, teacher-AI collaboration, AI literacy, academic integrity and ethical challenges. The synthesised findings were subsequently integrated to develop the proposed AI-Integrated Learner-Centric ELT Framework, which conceptualises AI integration as an antecedent of learner-centric pedagogical processes, with learner autonomy and engagement representing key mechanisms through which AI-supported learning may contribute to English language-learning outcomes, while teacher-AI orchestration and AI literacy provide important enabling conditions.

4. Findings

The structured synthesis of the literature indicates that AI is reshaping English language teaching through a shift from predominantly teacher-directed instruction towards more personalised, interactive and self-regulated learning. The findings are organised around the major themes identified in the reviewed literature.

4.1 AI-Enabled Personalised Learning

The first finding is that personalisation represents a major pedagogical contribution of AI-integrated English language teaching. AI systems can respond to individual learner inputs and provide explanations, examples and practice activities according to learners' immediate needs. Systematic reviews identify personalised learning as an important affordance of AI in EFL and ESL education (Lo et al., 2024; Peña-Acuña & Durão, 2024). Qiao et al. (2025) further indicate that AI-supported language learning has considerable potential for adaptive and individualised learning, although research on genuine adaptive personalisation remains less developed than research on tutoring and feedback.

The synthesis therefore suggests that AI can move English language teaching away from a uniform learning pathway towards more flexible learning experiences. Learners can receive different levels of explanation, practice and support according to their proficiency and learning requirements.

4.2 AI-Supported Feedback and Language Development

The second finding concerns the role of AI in providing immediate formative feedback. AI-supported systems can identify grammatical, lexical, structural and stylistic problems and provide suggestions for revision. Earlier research on automated writing evaluation established the potential of automated feedback to support writing development when integrated appropriately into classroom instruction (Warschauer & Ware, 2006; Stevenson, 2016). Recent research extends this possibility through generative AI, which can provide more interactive explanations and engage learners in revision processes (Guo & Wang, 2024). However, the literature indicates that AI feedback should not be treated as an unquestionable source of correction. Generative AI can produce inaccurate or inappropriate suggestions. Qiao et al. (2025) therefore emphasise the importance of pedagogical design and theoretical grounding when AI is incorporated into language learning. The finding suggests that the most productive model is:

Learner production → AI feedback → learner evaluation → revision

rather than:

AI correction → learner acceptance.

4.3 Conversational AI Expands Opportunities for Language Practice

The third finding is that conversational AI can increase opportunities for English language interaction. Dialogue-based computer-assisted language learning has a longer research history, with evidence that conversational systems can support second-language practice (Bibauw et al., 2019; Bibauw et al., 2022). The emergence of generative AI has substantially expanded this capability by allowing more flexible and context-sensitive conversations.

Recent systematic research on AI chatbots indicates that conversational technologies can support EFL speaking practice by providing learners with opportunities to engage in repeated communication (Lo et

al., 2024). The literature therefore suggests that AI can partially address a longstanding constraint in language classrooms, namely limited opportunities for each learner to produce English during class. This finding is particularly relevant to learner-centric pedagogy because learners can control the frequency, pace and difficulty of conversational practice.

4.4 AI and Learner Autonomy

The fourth finding is that AI has the potential to strengthen learner autonomy and self-directed learning. Learners can independently seek explanations, practise specific language skills, obtain feedback and revise their performance. Mohebbi (2024), in a systematic review of AI tools and learner independence, identified AI as a potential mechanism for supporting self-regulated and independent language learning. Recent research provides further evidence that AI literacy influences this relationship. Hamamra et al. (2026) found that AI literacy shaped how EFL learners used ChatGPT in writing and how they exercised learner autonomy. The findings indicate that autonomous learners do not simply accept AI-generated responses. They interact with the technology critically and retain responsibility for their learning decisions. Therefore, the literature suggests that AI availability does not automatically create learner autonomy. AI-supported autonomy depends on learners' ability to evaluate outputs, make decisions and maintain control over their learning.

4.5 AI and Learner Engagement

The fifth finding concerns learner engagement and motivation. AI-supported language learning can make interaction more immediate and responsive. Learners can obtain explanations and practise language without waiting for teacher intervention. Meta-analytic evidence indicates positive effects of AI-supported interventions on affective outcomes such as motivation and engagement (Ekizer, 2025).

The findings also suggest that engagement can operate as a pathway through which AI influences learning. When learners perceive AI-supported activities as responsive and useful, they may engage more frequently with language-learning tasks. However, engagement should not be measured only by frequency of AI use. Frequent interaction with AI may represent convenience rather than meaningful learning. Learner engagement should therefore include behavioural, cognitive and reflective dimensions.

4.6 AI and English Language Learning Outcomes

The sixth finding is that the existing empirical literature generally reports positive effects of AI-supported learning on English language outcomes, although the strength of these effects varies across studies.

Fathi et al. (2024) reported a significant overall effect of AI on English language learning achievement based on 40 empirical studies involving 3,290 participants. Ekizer (2025) similarly reported significant positive effects across experimental and quasi-experimental studies, particularly in areas such as writing accuracy and speaking fluency.

More recent synthesis research also reports positive effects across several language skills, including vocabulary, reading, writing, listening and speaking. However, the high heterogeneity reported across meta-analyses indicates that AI effectiveness depends on factors such as instructional design, AI technology, learner characteristics, intervention duration and learning context.

The finding therefore does not support the proposition that AI automatically improves English proficiency. Instead, AI-supported pedagogy appears more effective when technology is integrated with purposeful instructional activities.

4.7 Transformation of the Teacher's Role

The seventh finding concerns the changing role of English language teachers. The literature does not support the replacement of teachers by AI. Instead, AI creates opportunities for teachers to move from routine information delivery and repetitive correction towards pedagogical design, facilitation and evaluation.

Zawacki-Richter et al. (2019) highlighted the limited consideration of educators in early AI-in-education research. More recent research indicates that teachers continue to play an important role in deciding how AI should be incorporated into learning activities (Derakhshan, 2024; Mabuan, 2024).

The findings suggest that teachers increasingly perform four interconnected functions:

Pedagogical designer → Learning facilitator → AI-use evaluator → Ethical guide

This teacher-AI relationship represents an important component of learner-centric pedagogy.

4.8 AI Literacy as an Enabling Condition

The eighth finding is that AI literacy is an important condition for effective AI integration. Learners need to understand what AI can and cannot do. They also need to evaluate the accuracy and relevance of AI-generated information.

Kohnke et al. (2023) emphasised the importance of developing appropriate competencies for the pedagogically responsible use of ChatGPT. Hamamra et al. (2026) provide further evidence that AI literacy affects how learners use generative AI and exercise autonomy.

The literature therefore indicates that AI-integrated ELT should include AI literacy as part of language education rather than treating it as a separate technological skill.

4.9 Academic Integrity and AI Dependence

The ninth finding is that AI creates significant challenges for assessment and academic integrity. Students can use generative AI to produce essays, assignments and other language outputs. Lo et al. (2024) identified academic dishonesty, inaccurate information and privacy concerns among the major challenges associated with ChatGPT in ESL/EFL education.

The literature also raises concerns regarding overdependence. If learners delegate writing, translation or problem-solving tasks to AI, the quality of the final product may improve without a corresponding improvement in underlying language competence.

This creates an important distinction between: AI-supported learning and AI-substituted performance. Learner-centric pedagogy requires the former. Assessment should therefore increasingly examine the learning process through drafts, revisions, reflections and oral demonstrations of competence.

4.10 Ethical and Contextual Challenges

The tenth finding concerns the broader conditions required for responsible AI integration. The literature identifies concerns relating to privacy, misinformation, bias, unequal technological access and teacher

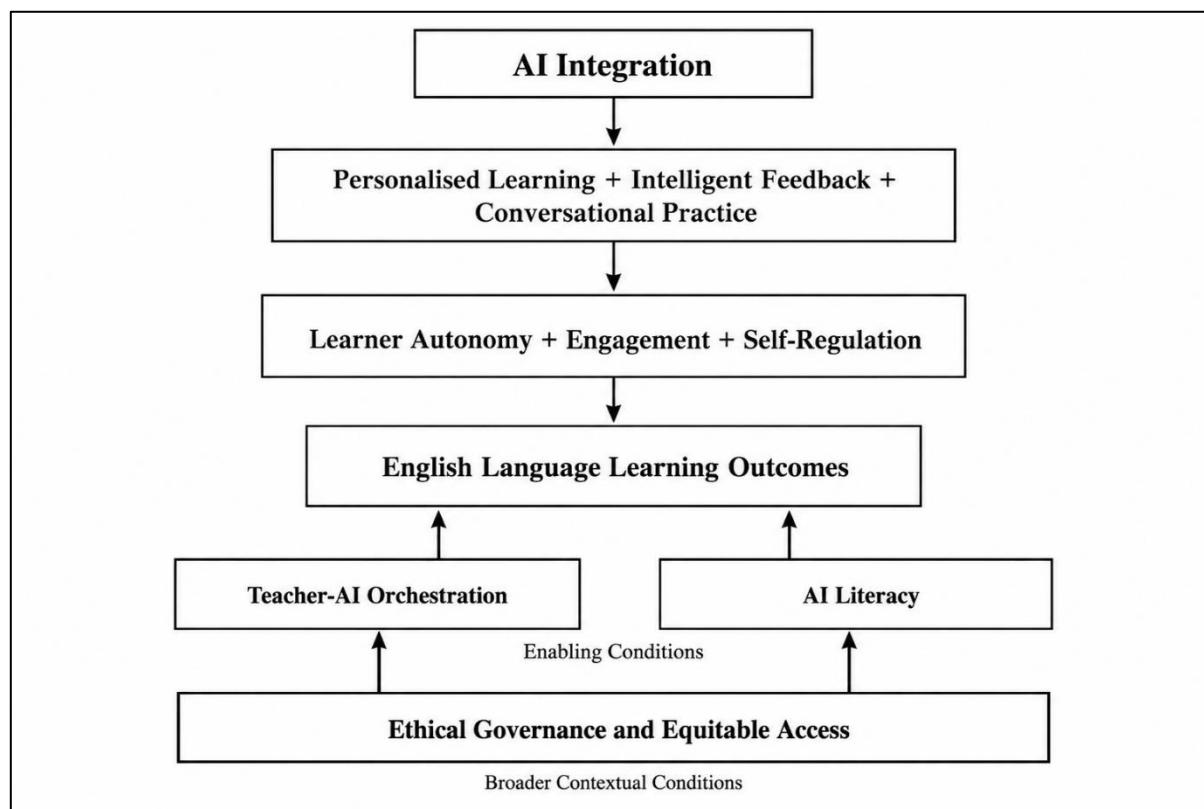
preparedness. These challenges indicate that AI integration cannot be separated from institutional and ethical governance.

Qiao et al. (2025) highlight the need for stronger theoretical and methodological foundations in AI language-learning research. Uygun and Demir (2026) similarly identify continuing gaps concerning educational contexts, research designs and implementation conditions.

Therefore, the benefits of AI are conditional on appropriate pedagogical design, teacher preparation, learner AI literacy and institutional governance.

4.11 Integrated Findings and Proposed Framework

The findings consequently indicate that the transformation from chalk to code should not be understood simply as technological replacement. The evidence supports a shift towards a human-AI pedagogical ecosystem in which AI expands opportunities for individualised practice and feedback while learners retain agency and teachers maintain pedagogical responsibility.



Source: Authors Own Work

7. Conclusion

This study examined how artificial intelligence can transform English language teaching through an AI-integrated, learner-centric pedagogical approach. The synthesis of existing research indicates that AI has moved beyond its traditional role as a supplementary educational technology and is increasingly becoming part of the learning process itself. AI-supported platforms can provide personalised learning support, immediate feedback, conversational practice, writing assistance and opportunities for independent learning. Evidence from recent meta-analyses and systematic reviews indicates generally positive effects

of AI-supported interventions on English language learning outcomes, although the magnitude of these effects varies across technologies, learners, instructional settings and research designs.

A central finding of the study is that the pedagogical value of AI depends less on the technology itself and more on how it is integrated into the learning process. AI can support learner autonomy by allowing students to control the pace and frequency of practice, seek explanations and receive immediate feedback. However, frequent AI use does not necessarily indicate genuine learner autonomy. Learners must be able to question AI-generated information, evaluate feedback and make independent learning decisions. AI literacy therefore becomes an important condition for achieving meaningful learner-centred learning.

The study also establishes that AI should not be conceptualised as a replacement for English language teachers. Instead, the emerging evidence supports a collaborative model in which teachers design learning activities, guide appropriate AI use, evaluate learner progress and address ethical concerns, while AI provides additional opportunities for personalised practice and feedback. Such an approach changes the teacher's role from primarily delivering information towards facilitating, designing and monitoring learning experiences.

The findings further demonstrate that the integration of AI creates important challenges. Concerns surrounding inaccurate information, academic integrity, learner dependence, privacy, unequal access and inappropriate use require careful pedagogical and institutional responses. Consequently, effective AI-integrated ELT requires a balance between technological assistance and human judgement. The proposed framework positions AI integration, learner autonomy, engagement, personalised learning and language-learning outcomes within a broader system supported by teacher-AI orchestration and AI literacy.

The study therefore argues that the transformation from “chalk to code” should not represent a movement from human teaching towards technological teaching. Rather, it should represent a transition towards a more flexible learning environment in which AI extends the capacity of teachers and learners. The most valuable contribution of AI to English language teaching is achieved when technology strengthens learner agency, meaningful interaction, reflection and continuous improvement. Future development of AI-integrated ELT should consequently focus on pedagogically purposeful use rather than technological adoption alone.

8. Implications

The findings of this study have important theoretical, pedagogical, institutional and policy implications for the future of English language teaching. The implications arise from the central finding that AI is most valuable when it is integrated with learner-centred pedagogy rather than treated as a substitute for teachers or independent learning.

8.1 Theoretical Implications

The study contributes to the emerging literature on AI in English language education by connecting AI integration with learner-centred pedagogy and learner autonomy. Existing research has frequently examined specific AI tools, such as ChatGPT, automated writing systems and conversational chatbots. The present study extends this perspective by positioning AI as part of a broader pedagogical process involving personalisation, feedback, interaction, engagement and self-regulation. This provides a more integrated explanation of how AI may contribute to English language learning.

The study also reinforces the importance of learner agency in AI-supported education. AI availability alone cannot produce autonomous learning. Learners need to evaluate AI outputs, make decisions and remain responsible for their learning. This positions AI literacy as an important enabling factor connecting technological use with meaningful learner autonomy.

8.2 Pedagogical Implications

For English language teachers, the findings suggest that AI should be incorporated into purposefully designed learning activities rather than introduced simply because the technology is available. Teachers can use AI to provide additional opportunities for vocabulary practice, writing revision, conversational interaction, grammar explanation and individualised learning support.

Teachers should also encourage students to critically evaluate AI-generated responses. Activities can require learners to identify errors in AI-generated text, compare AI feedback with teacher feedback and justify their decisions when accepting or rejecting AI suggestions. Such activities can transform AI from an answer-producing system into a learning and reflection tool.

The findings further suggest that classroom activities should maintain a balance between AI-supported and independent language production. Learners should first attempt tasks independently and then use AI for feedback, comparison or further practice. This approach can reduce excessive dependence on generative AI.

8.3 Implications for Teacher Education

Teacher education programmes need to incorporate AI literacy and AI pedagogy into professional preparation. Knowing how to operate an AI tool is not sufficient. Teachers need to understand its capabilities, limitations, biases and appropriate educational applications.

Professional development should therefore address prompt design, evaluation of AI-generated content, ethical AI use, assessment redesign and strategies for maintaining learner agency. Teachers should also be prepared to identify situations where AI assistance enhances learning and situations where direct teacher intervention remains necessary.

8.4 Implications for Curriculum Design

Curriculum developers should reconsider the structure of English language courses in response to AI-supported learning. Rather than designing curricula around content transmission alone, greater emphasis should be placed on interaction, problem-solving, reflection, revision and learner autonomy.

AI can be integrated into different stages of the learning cycle. Learners may independently attempt a task, use AI to obtain feedback, critically evaluate the feedback, revise their work and reflect on the changes made. Such a sequence allows AI to support the learning process while preserving learner responsibility.

8.5 Implications for Assessment

The widespread availability of generative AI creates a need to reconsider conventional assessment practices. Assignments that can be completed entirely through AI-generated responses provide limited evidence of individual language competence.

Assessment should therefore place greater emphasis on process and demonstrated understanding. Draft development, revision histories, reflective explanations, oral presentations, classroom interaction and

learner justification can complement written submissions. Institutions should also establish clear expectations concerning when and how AI use is permitted.

The objective should not be to prohibit AI in every assessment context. Instead, assessment should distinguish between legitimate AI-assisted learning and the outsourcing of learning tasks to AI.

8.6 Institutional Implications

Educational institutions need clear institutional frameworks for responsible AI adoption. Such frameworks should address acceptable AI use, data privacy, academic integrity, transparency and teacher responsibilities.

Institutions should also provide teachers and learners with access to appropriate AI tools and training. Unequal access to AI technologies can create new forms of educational inequality. Institutional strategies should therefore consider affordability, digital infrastructure and accessibility when implementing AI-supported learning.

8.7 Policy Implications

At the policy level, education authorities should develop guidelines for responsible AI use in English language education. Policy frameworks should provide guidance on data protection, academic integrity, AI literacy and assessment while allowing sufficient flexibility for teachers to experiment with pedagogically appropriate applications.

Policies should also recognise that AI literacy is becoming an important component of contemporary language education. Students should learn not only how to communicate in English but also how to critically and responsibly interact with AI-mediated communication environments.

8.8 Implications for Learners

For learners, the findings highlight the importance of developing a critical and responsible relationship with AI. AI should be used to support learning rather than replace effort. Learners can use AI to practise language, obtain explanations, identify weaknesses and receive feedback, but they should retain responsibility for evaluating information and producing their own work.

This approach can help learners develop both English proficiency and transferable competencies such as critical thinking, self-regulation and digital judgement.

9. Future Research Directions

The rapid development of AI in English language teaching creates several opportunities for future research. Although existing studies generally report positive effects of AI-supported learning, important questions remain concerning long-term learning, learner autonomy, teacher-AI collaboration and responsible implementation.

Future studies should use longitudinal designs to examine whether AI-supported learning produces sustained improvements in English proficiency. Much of the existing research focuses on short-term interventions. Longitudinal studies could determine whether improvements in writing, speaking, vocabulary and engagement remain after prolonged AI exposure. Future research should employ stronger experimental designs to establish causal relationships between AI-integrated pedagogy and language-learning outcomes. Randomised controlled trials and well-designed quasi-experimental studies could

compare traditional instruction, AI-assisted instruction and fully integrated learner-centred AI pedagogy. The relationship between AI and learner autonomy requires deeper empirical investigation. Future studies should examine whether frequent AI use actually increases learners' capacity to plan, monitor and evaluate their own learning. Researchers should distinguish between AI dependence and AI-supported autonomy rather than treating technology use as evidence of autonomous learning. Future research should examine AI literacy as a potential mediator or moderator between AI use and learning outcomes. Quantitative models could investigate whether learners with higher AI literacy obtain greater benefits from AI-supported learning. Such studies could also examine whether AI literacy influences the relationship between AI use and learner autonomy. More research is required on how teachers and AI systems can work together effectively. Future studies could examine different models of teacher-AI orchestration and determine which forms of teacher intervention produce stronger learning outcomes. Research should also investigate how teachers' AI competence influences the effectiveness of AI-integrated pedagogy.

REFERENCES:

1. Alsaedi, N. (2024). ChatGPT and EFL/ESL writing: A systematic review of advantages and challenges. *English Language Teaching*, 17(5), 41–54.
2. Balci, Ö. (2024). The role of ChatGPT in English as a Foreign Language (EFL) learning and teaching: A systematic review. *International Journal of Current Educational Studies*.
3. Bibauw, S., François, T., & Desmet, P. (2019). Discussing with a computer to practice a foreign language: Research synthesis and conceptual framework of dialogue-based CALL. *Computer Assisted Language Learning*, 32(8), 827–877.
4. Bibauw, S., Van den Noortgate, W., François, T., & Desmet, P. (2022). Dialogue systems for language learning: A meta-analysis. *Language Learning & Technology*, 26(1), 1–24.
5. Deng, L., & Jamaludin, K. A. (2026). Roles of Generative Artificial Intelligence (GenAI) in English as a Foreign Language (EFL) instruction: A systematic literature review. *SAGE Open*.
6. Derakhshan, A. (2024). Is ChatGPT an evil or an angel for second language education and research? A phenomenographic study of research-active EFL teachers' perceptions. *International Journal of Applied Linguistics*, 34(4), 1246–1264.
7. Eedeloui, S. (2026). Factors influencing language teachers' judgements and decision-making about the use of generative AI tools: A systematic review. *Teaching and Teacher Education*, 171, 105333.
8. *Effectiveness of artificial intelligence (AI) in language teaching*. (2025). *Computers and Education: Artificial Intelligence*, 9, 100522.
9. Ekizer, F. N. (2025). Exploring the impact of artificial intelligence on English language teaching: A meta-analysis. *Acta Psychologica*, 260, 105649.
10. Fathi et al. (2024). The effectiveness of artificial intelligence on English language learning achievement. *System*, 125, 103428.
11. Hamamra, B., Khlaif, Z. N., & Mahamid, N. (2026). AI literacy and mediated learner autonomy in ChatGPT-supported EFL writing: A qualitative study at a Palestinian university. *International Journal of Educational Technology in Higher Education*, 23, 19.
12. Fathi, J., et al. (2024). The effectiveness of artificial intelligence on English language learning achievement. *System*, 125, 103428. <https://doi.org/10.1016/j.system.2024.103428>

13. Fryer, L., & Carpenter, R. (2006). Bots as language learning tools. *Language Learning & Technology*, 10(3), 8–14.
14. Guo, K., & Wang, D. (2024). To resist it or to embrace it? Examining ChatGPT's potential to support teacher feedback in EFL writing. *Education and Information Technologies*, 29, 8435–8463.
15. Hamamra, B., Khlaif, Z. N., & Mahamid, N. (2026). AI literacy and mediated learner autonomy in ChatGPT-supported EFL writing: A qualitative study at a Palestinian university. *International Journal of Educational Technology in Higher Education*, 23, 19.
16. Kohnke et al. (2024). Exploring the application of ChatGPT in ESL/EFL education and related research issues: A systematic review of empirical studies. *Smart Learning Environments*, 11, 50.
17. Kök, M. (2026). Generative artificial intelligence literacy training for 12th grade English as a foreign language students: Effects on artificial intelligence literacy, ChatGPT usage, and autonomous English learning. *HAYEF: Journal of Education*, 23, 1–10.
18. Kundu, A. (2025). Empowering students' autonomy in EFL learning: AI innovations in schools of the Global South. *The Electronic Journal of Information Systems in Developing Countries*, 91(6), e70041. <https://doi.org/10.1002/isd2.70041>
19. Little, D. (2007). Language learner autonomy: Some fundamental considerations revisited. *Innovation in Language Learning and Teaching*, 1(1), 14–29.
20. Little, D. (2022). Language learner autonomy: Rethinking language teaching. *Language Teaching*, 55(1), 1–14.
21. Lo, C. K., Yu, P. L. H., Xu, S., Ng, D. T. K., & Jong, M. S. Y. (2024). Exploring the application of ChatGPT in ESL/EFL education and related research issues: A systematic review of empirical studies. *Smart Learning Environments*, 11, 50.
22. Lyu, X., et al. (2025). Effectiveness of chatbots in improving language learning: A meta-analysis of comparative studies. *International Journal of Applied Linguistics*.
23. Mabuan, R. A. (2024). ChatGPT and ELT: Exploring teachers' voices. *International Journal of Technology in Education*, 7(1), 128–153. <https://doi.org/10.46328/ijte.523>
24. Mohebbi, A. (2024). Enabling learner independence and self-regulation in language education using AI tools: A systematic review. *Cogent Education*.
25. Peña-Acuña, B., & Durão, R. C. F. (2024). Learning English as a second language with artificial intelligence for prospective teachers: A systematic review. *Frontiers in Education*, 9.
26. Qiao, S., Gu, M. M., & Lu, C. (2025). Artificial intelligence for language learning: A systematic review of its design, theoretical foundations, implementation, and impact. *International Journal of Applied Linguistics*.
27. Stevenson, M. (2016). A critical interpretative synthesis: The integration of automated writing evaluation into classroom writing instruction. *Computers and Composition*, 42, 1–16. <https://doi.org/10.1016/j.compcom.2016.05.001>
28. Uygun, E., & Demir, B. (2026). A PRISMA-based systematic review of artificial intelligence in English as a foreign and second language education (2023–2025). *Discover Education*, 5, 478.
29. Warschauer, M., & Ware, P. (2006). Automated writing evaluation: Defining the classroom research agenda. *Language Teaching Research*, 10(2), 157–180.



30. Woo, D. J., Wang, D., Guo, K., et al. (2024). Teaching EFL students to write with ChatGPT: Students' motivation to learn, cognitive load, and satisfaction with the learning process. *Education and Information Technologies*, 29, 24963–24990.
31. Xodabande, I. (2026). The use of artificial intelligence in English language teaching and learning in higher education: A systematic literature review. *Cogent Education*.
32. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education: Where are the educators? *International Journal of Educational Technology in Higher Education*, 16, 39.
33. Zhang, Y., Qiu, X., & Wang, J. (2026). A systematic research synthesis of generative AI literacy in English language education. *Discover Artificial Intelligence*, 6, 1074.