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From AI assistance to AI literacy: Reframing english language teaching in the generative AI era

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Abstract
The rapid emergence of generative artificial intelligence (Gen, AI) has begun to reshape English Language Teaching (ELT), particularly in relation to writing instruction, formative feedback, learner autonomy, assessment, and teacher professional practice. While a growing body of research reports positive effects of artificial intelligence (AI)-supported language learning, concerns surrounding overdependence, academic integrity, inaccurate feedback, reduced critical engagement, inequitable access, and teacher preparedness remain unresolved. This study investigates how recent empirical research conceptualizes the pedagogical role of Gen AI in English language education and identifies the conditions under which AI can function as a pedagogical support rather than a substitute for human teaching and learning. A systematic review methodology was employed to synthesize recent peer-reviewed empirical and review studies concerning AI and English language education, with particular attention to Gen AI-supported writing, feedback, learner engagement, critical thinking, teacher competence, and classroom integration. The synthesis indicates four major findings. First, AI-supported instruction can enhance individualized feedback, writing development, learner engagement, and opportunities for language practice. Second, the educational value of AI depends substantially on teacher mediation and students' capacity to evaluate AI-generated output. Third, teacher Gen AI literacy is emerging as a multidimensional professional competence involving technological knowledge, pedagogical application, evaluation, instructional design, and ethics. Fourth, unrestricted AI use may reproduce or intensify existing inequalities associated with digital access, linguistic norms, academic integrity, and AI literacy. The study therefore proposes a human-centred AI-mediated ELT framework in which teachers remain pedagogical decision-makers and AI functions as a scaffold for interaction, reflection, revision, and experimentation. The findings suggest that the central question for contemporary ELT is no longer whether AI should be used, but how learners and teachers can develop the literacy required to use it critically, ethically, and pedagogically.

Keywords: English language teaching, generative artificial intelligence, EFL, CHATGPT, AI literacy, language pedagogy, writing instruction, teacher mediation

Introduction

1. Background of the Study

English Language Teaching has historically evolved alongside technological change. From language laboratories and audio-visual resources to computer-assisted language learning, mobile-assisted language learning, learning management systems, automated writing evaluation, and online communication platforms, technology has repeatedly altered the possibilities available to language teachers and learners. The emergence of generative artificial intelligence (Gen, AI), however, represents a qualitatively different development because contemporary AI systems can generate, transform, evaluate, translate, summarize, and interact with language in ways that closely resemble human linguistic production.

The release of Chat GPT in November 2022 accelerated discussions about the pedagogical implications of generative AI. In English language education, the technology has been particularly consequential because language itself is the primary medium through which generative AI operates. Learners can now engage in simulated conversations, request explanations of grammatical structures, generate examples, obtain feedback on written texts, revise drafts, receive vocabulary suggestions, and experiment with different registers and genres. Teachers can similarly employ AI for lesson planning, material generation, formative feedback, differentiated instruction, assessment design, and classroom activity development.

Recent empirical research indicates considerable potential. A systematic review of 70 empirical studies examining Chat GPT in ESL/EFL education reported affordances including increased learning opportunities, personalized learning, and teacher support, while also identifying concerns relating to inaccurate information, privacy, and academic dishonesty (Lo *et al*., 2024). Similarly, research on Chat GPT-supported writing has reported positive effects on motivation, self-efficacy, engagement, and collaborative writing tendencies (Teng, 2024) [12].

However, the educational significance of Gen AI cannot be reduced to whether students produce better texts or whether teachers save time. Language learning is fundamentally developmental and involves cognitive, social, affective, and communicative processes. If AI generates linguistic solutions without requiring learners to understand, evaluate, negotiate, and reconstruct those solutions, improvements in immediate performance may not necessarily correspond to durable language development.

This distinction is increasingly important in writing pedagogy. Research comparing teacher- and Chat GPT-generated feedback suggests that students may engage differently with the two sources. Teacher feedback has been associated with stronger engagement and greater accuracy in revisions, whereas Chat GPT may provide particular benefits for organizational feedback (Li *et al*., 2025). Other research has similarly argued for an “AI + Teacher” model rather than an AI-replacement model, emphasizing the

complementary strengths of computational and human feedback (Li & Han, 2024) [4].

Consequently, contemporary ELT requires a shift from AI use to AI literacy. Students need to know not merely how to prompt an AI system but also how to interrogate its output, identify inaccuracies, compare alternative responses, recognize linguistic and cultural bias, protect personal information, acknowledge AI assistance, and make independent decisions about whether and how AI-generated material should be incorporated into their work.

The same principle applies to teachers. Recent research has conceptualized EFL teachers' Gen AI literacy as multidimensional, encompassing Gen AI knowledge, use, evaluation, design, and ethics (Wang *et al*., 2025) [15]. This development is significant because effective AI integration cannot be achieved simply by providing teachers with access to technological tools. Teachers must possess the professional capacity to determine when AI is pedagogically appropriate, how it should be integrated into classroom activities, and when its use should be restricted.

2. Problem Statement

The increasing availability of Gen AI has created a pedagogical paradox for ELT. On the one hand, AI provides unprecedented opportunities for individualized practice, immediate feedback, language experimentation, and instructional support. On the other hand, uncontrolled use can encourage dependency, undermine independent writing, facilitate academic dishonesty, and weaken students' critical engagement with language. Existing research has expanded rapidly, but several problems remain. First, much of the early literature concentrated on students' perceptions of Chat GPT rather than sustained pedagogical integration. Second, research has frequently examined individual skills—especially writing—without sufficiently connecting AI use to broader ELT principles. Third, the role of teacher mediation remains insufficiently conceptualized. Fourth, ethical issues such as equity, privacy, authorship, and linguistic bias require greater attention.

A recent systematic review of 49 empirical classroom studies found that higher education was the dominant research setting and English was the primary target language in Gen AI-supported language learning research. Another review of 144 peer-reviewed studies published during the first two years of empirical Gen AI research in language learning and teaching identified a movement from exploratory investigations toward more systematic empirical research. These developments indicate that the field is moving beyond the initial question of whether AI is useful and toward the more complex question of how it should be pedagogically integrated.

3. Research Gap

Although AI in ELT has received substantial scholarly attention, there remains a need for a pedagogically grounded synthesis that connects three dimensions:

1. **Learner development:** language proficiency, writing, engagement, autonomy, and critical thinking;
2. **Teacher mediation:** AI literacy, instructional design, feedback, assessment, and professional judgement; and
3. **Ethical and social responsibility:** academic integrity, equity, privacy, bias, and responsible use.

The present study addresses this gap by synthesizing recent evidence through the following research questions

Research Questions

RQ1: What pedagogical benefits of AI-supported instruction are most consistently reported in recent English language education research?

RQ2: What challenges and risks are associated with GenAI integration in ELT?

RQ3: What role does teacher mediation play in effective AI-supported English language learning?

RQ4: What competencies constitute AI literacy for contemporary English language learners and teachers?

RQ5: What pedagogical model can guide responsible and effective integration of GenAI into ELT?

Method

1. Research Design

The study adopted a systematic literature review design. A systematic review was selected because the purpose was to synthesize emerging empirical evidence rather than collect a new classroom dataset. The review was structured around the principles of transparent identification, screening, selection, categorization, and synthesis of relevant literature. The review focused particularly on research published during the period in which generative AI became a major educational phenomenon. Greater attention was therefore given to studies published from 2023 onward, while foundational literature and policy documents were included where necessary to establish conceptual context.

The methodological orientation is consistent with the increasing use of systematic reviews in AI-supported language education research. Recent reviews have used PRISMA-oriented procedures to synthesize empirical evidence concerning Chat GPT and broader Gen AI applications in ESL/EFL education.

2. Search Strategy

Relevant literature was identified through searches of major scholarly databases and publisher platforms, including

- Web of Science
- Scopus
- ERIC
- ScienceDirect
- SpringerLink
- Taylor & Francis Online

The principal search combinations included terms such as: “generative AI” AND “English language teaching”, Chat GPT and EFL, Chat GPT and “ESL, Artificial intelligence and English language learning, Generative AI and EFL writing, AI feedback and English writing,

AI literacy and EFL teachers, Generative AI and language pedagogy.

3. Inclusion and Exclusion Criteria

Studies were included when they:

1. addressed English as a second or foreign language;
2. examined AI, Gen AI, Chat GPT, automated writing systems, or closely related AI-supported technologies;
3. were published in peer-reviewed academic journals;
4. reported empirical findings or systematic evidence relevant to ELT;

5. addressed language learning, teaching, feedback, assessment, teacher practice, learner engagement, or related pedagogical outcomes; and
6. were available in English.

Studies were excluded when they

1. focused exclusively on general AI engineering without educational application;
2. addressed disciplines unrelated to language education;
3. were opinion pieces without substantive scholarly evidence;
4. duplicated another publication;
5. lacked sufficient methodological information; or
6. discussed AI only at a technical level without implications for language learning or teaching.

4. Data Extraction and Analysis

The selected literature was organized according to five analytical categories:

Category	Analytical focus
Language development	Writing, grammar, vocabulary, speaking and proficiency
Learner engagement	Motivation, confidence, autonomy and participation
Teacher mediation	Feedback, instructional design and professional practice
Higher-order learning	Critical thinking, evaluation and reflection
Ethics and equity	Integrity, privacy, bias, access and responsible use

A thematic synthesis approach was then used to identify recurring patterns, contradictions, and emerging pedagogical principles. The review did not calculate a new statistical effect size because the included studies differed considerably in research design, intervention duration, learner population, AI application, outcome measures, and educational context. This methodological heterogeneity makes a qualitative thematic synthesis more appropriate for the present research questions.

Results

The synthesis generated five interconnected findings.

1. AI Expands Opportunities for Individualized Language Learning

The first major finding concerns personalization. AI systems can provide learners with individualized linguistic input and feedback at a scale that is difficult for teachers to provide in large classes. Students can request explanations according to their proficiency level, generate additional examples, practice specific grammatical structures, simulate conversations, and receive immediate responses. This potentially changes the temporal structure of language learning: learners no longer need to wait for the next classroom interaction to obtain assistance. A systematic review of Chat GPT applications in ESL/EFL education identified personalized learning and increased learning opportunities among the principal affordances of the technology (Lo *et al*., 2024) [10]. Research involving EFL learners has also associated Chat GPT-supported writing with increased motivation, self-efficacy, engagement, and collaborative writing tendencies. The evidence therefore suggests that AI can extend language learning beyond the classroom. However, personalization should not be confused with pedagogical adequacy. AI can personalize an explanation, but the learner still requires a teacher or a well-designed pedagogical structure to determine whether that explanation is accurate, relevant, developmentally appropriate, and meaningful.

2. AI-Supported Feedback Can Strengthen the Writing Process

Writing is one of the areas in which AI integration has received particularly substantial empirical attention. AI tools can provide rapid feedback concerning grammar, vocabulary, organization, coherence, sentence construction, and stylistic choices. Such feedback can encourage learners to revise multiple times rather than treating writing as a one-draft activity. A study involving 60 postgraduate EFL students found that generative AI-assisted feedback could influence writing proficiency, revision practices, and writing quality. Similarly, research involving university EFL students has reported improvements in aspects of writing such as grammar, conciseness, information inclusion, and passive voice following Chat GPT-supported feedback. However, the evidence also indicates that AI feedback should not be treated as equivalent to teacher feedback. Li *et al*. (2025) found that learners demonstrated greater engagement and accuracy when incorporating teacher feedback, although Chat GPT was particularly useful for organizational aspects of writing. This suggests that the pedagogical value of AI feedback lies partly in complementarity.

The strongest model is therefore not

Teacher Or AI

but:

Teacher + Learner + AI

In this model, AI expands feedback capacity while the teacher interprets, contextualizes, challenges, and pedagogically mediates AI-generated suggestions.

3. Teacher Mediation Remains Central

The third finding concerns the changing—not disappearing—role of the teacher. The emergence of Gen AI challenges traditional conceptions of teachers as primary providers of information. Yet it simultaneously increases the importance of teachers as designers, evaluators, facilitators, and ethical guides. Recent research on Chat GPT-supported teacher feedback found that AI could help address diverse error categories and provide rhetorical feedback, while teachers remained responsible for adapting the AI-generated feedback before presenting it to students. This finding is important because AI-generated language may appear authoritative even when it is inaccurate or pedagogically inappropriate. Teachers therefore need to function as AI-mediated pedagogical filters.

A teacher may ask

- Is this AI-generated explanation linguistically accurate?
- Is it appropriate for the learner's proficiency level?
- Does it reflect the cultural context of the classroom?
- Does it promote learning or simply provide an answer?
- Does the task require independent production?
- Is the use of AI compatible with assessment objectives?

These questions transform the teacher's role from information transmitter to pedagogical decision-maker.

4. AI Literacy Is Becoming a Core ELT Competence

The fourth finding is that successful AI integration requires more than technological familiarity. Recent research involving EFL teachers identified five dimensions of Gen AI literacy:

1. Gen AI knowledge;
2. Gen AI use;
3. Gen AI evaluation;
4. Gen AI design; and
5. Gen AI ethics.

This multidimensional conception is particularly valuable for ELT because language teachers need to evaluate both technological and linguistic outputs. For example, knowing how to generate an essay does not necessarily constitute AI literacy.

An AI-literate English teacher should be able to

- construct pedagogically meaningful prompts;
- identify hallucinations and linguistic inaccuracies;
- compare AI-generated and human-generated language;
- design AI-assisted but learner-centred activities;
- teach students to critique AI output;
- protect student data;
- address academic integrity;
- recognize cultural and linguistic bias; and
- determine when AI should not be used.

Recent intervention research supports this perspective. Huang *et al*. (2025) [2] found that a structured 12-week course significantly improved pre-service English language teachers' overall Gen AI literacy and its five identified dimensions. Thus, teacher education must increasingly incorporate AI literacy into professional development rather than treating AI as an optional technical skill.

5. AI Creates Risks for Critical Thinking, Equity and Academic Integrity

The fifth finding concerns the paradoxical nature of AI-supported language learning. Generative AI can stimulate critical thinking when students compare, interrogate, verify, and revise its output. Conversely, it can weaken critical thinking when learners accept AI-generated responses without evaluation. A systematic review of Gen AI and critical thinking in EFL education found this dual potential: AI can support critical thinking but can also hinder it when learners become passive recipients of AI-generated content.

Academic integrity represents another major challenge. AI can generate essays, paraphrase existing material, translate content, and produce apparently original responses. Consequently, conventional assessment practices based primarily on final written products are increasingly vulnerable. The issue is not simply whether students Use AI. Rather, the pedagogical question is whether students can demonstrate ownership of the learning process.

Assessment therefore needs to move toward

- drafts;
- revisions;
- reflective commentaries;
- oral explanations;
- process portfolios;
- source evaluation;
- classroom writing;
- peer review; and
- AI-use disclosure.

Equity represents another concern. A recent systematic review found that Gen AI can bridge educational inequalities through personalized scaffolding and increased access, but can also widen disparities because of differences in infrastructure, digital literacy, algorithmic bias, and English-dominant linguistic norms. UNESCO similarly emphasizes that AI in education requires a human-centred approach involving ethical, safe, equitable, and meaningful implementation.

Discussion

1. From AI as a Tool to AI as a Pedagogical Mediator

The findings suggest that the dominant "AI as a tool" perspective is insufficient. A tool-oriented approach asks: How can teachers use Chat GPT? A pedagogically oriented approach asks: What kind of language learning becomes possible when AI mediates interaction among teachers, learners, texts and feedback? This distinction is fundamental. AI should not simply automate existing ELT practices. Instead, it should be incorporated when it creates meaningful pedagogical opportunities that would otherwise be difficult to achieve. For example, rather than asking students to use AI to write an essay, a teacher could ask students to:

1. write an initial paragraph independently;
2. obtain two alternative AI revisions;
3. identify differences;
4. evaluate grammatical and rhetorical changes;
5. determine which changes improve the text;
6. reject inappropriate AI suggestions;
7. revise their own paragraph; and
8. write a reflection explaining their decisions.

In such an activity, AI becomes an object of critical language analysis rather than a substitute for writing.

2. A Human-Centred AI-Mediated ELT Model

Based on the synthesis, this study proposes a Human-Centred AI-Mediated ELT Model consisting of five stages.

Stage 1: Human Generation

Learners first attempt the language task independently. This stage preserves learner agency and provides evidence of the learner's actual linguistic competence.

Stage 2: AI Interaction

Learners interact with AI to obtain explanations, alternatives, examples, questions, or feedback. AI therefore becomes a source of additional linguistic input.

Stage 3: Critical Evaluation

Learners evaluate AI output rather than accepting it automatically. They identify:

- inaccuracies;
- inappropriate vocabulary;
- grammatical problems;
- cultural assumptions;
- unsupported claims;
- stylistic differences; and
- possible bias.

Stage 4: Human Revision

Learners independently decide which AI suggestions to adopt, modify, or reject. This stage transforms AI use into a metacognitive activity.

Stage 5: Reflection
Learners explain how AI influenced their learning and which decisions they made independently. this final stage strengthens accountability, learner autonomy, and AI literacy. The model can be represented as:
Independent Production → AI Interaction → Critical Evaluation → Human Revision → Reflection
The teacher operates across all five stages as designer, facilitator, evaluator, and ethical mediator.

3. Implications for ELT Teachers

The findings have several implications for teachers. First, professional development should move beyond demonstrations of AI tools. Teachers require sustained training in prompt design, output evaluation, AI ethics, assessment redesign, and AI-mediated pedagogy. Second, teachers should design activities where AI output becomes material for language analysis. For example, students can compare an AI-generated paragraph with a professionally written paragraph and identify differences in cohesion, register, vocabulary, and rhetorical structure. Third, teachers should explicitly teach students that fluent AI output is not synonymous with accurate information. Fourth, teachers should develop transparent classroom policies concerning acceptable and unacceptable AI use. Finally, teachers should preserve opportunities for independent language production. Not every classroom task requires AI.

4. Implications for Learners

Students require a new form of literacy that combines traditional language competence with AI-related critical competence.

AI-literate English learners should be capable of

- communicating effectively with AI systems;
- evaluating AI-generated language;
- verifying information;
- identifying errors;
- recognizing bias;
- revising AI output;
- protecting personal information;
- acknowledging AI assistance; and
- producing independent language when required.

This implies that AI literacy should become an extension of language literacy rather than a separate technological subject.

5. Implications for Assessment

AI requires a reconsideration of assessment practices. Traditional product-oriented assessment can no longer assume that a submitted text necessarily represents the student's unaided linguistic production. Consequently, process-oriented assessment becomes increasingly important.

A contemporary ELT writing assessment may include

Assessment component	Purpose
Initial draft	Establish independent performance
AI interaction record	Document AI use
Revision	Demonstrate learning through feedback
Reflection	Assess metacognitive engagement
Oral explanation	Verify ownership and understanding
Final text	Evaluate language development

Such assessment does not necessarily prohibit AI. Instead, it makes AI use visible and pedagogically accountable.

6. Implications for Curriculum Design

Curricula should incorporate AI literacy across language skills rather than adding a separate "AI unit."

Reading
Students can compare AI-generated summaries with original texts and identify omissions, distortions, and interpretative differences.

Writing
Students can critically evaluate AI feedback and revise their own drafts.

Speaking
Students can use AI to simulate conversational situations while subsequently engaging in human interaction.

Listening
AI-generated transcripts can be compared with authentic spoken language.

Vocabulary
Students can examine AI-generated lexical suggestions and assess register, collocation, connotation, and appropriateness.

Grammar
Students can request explanations of grammatical patterns and then test those explanations against authentic examples. Thus, AI can become embedded within communicative language teaching without displacing human interaction.

Conclusion

Generative artificial intelligence is fundamentally changing the conditions under which English language teaching takes place. The evidence reviewed in this study indicates that AI-supported ELT can enhance individualized practice, feedback, writing development, learner engagement, and teacher support. Nevertheless, these benefits are not automatic. The pedagogical value of AI depends on how the technology is integrated, how learners engage with its output, and how effectively teachers mediate the interaction. the central finding of this study is therefore that AI should be conceptualized as a pedagogical mediator rather than a replacement for the teacher or the learner.
The transition from traditional technology-assisted language learning to Gen AI-mediated ELT requires a corresponding transition from technological competence to AI literacy. For teachers, this includes knowledge, practical use, evaluation, instructional design, and ethical decision-making. For learners, it involves prompt competence, critical evaluation, linguistic judgement, reflection, and responsible use. the emerging evidence also demonstrates that AI can simultaneously expand and restrict educational opportunities. It can democratize access to individualized support while reproducing digital inequalities. It can encourage critical thinking while also encouraging intellectual passivity. It can support writing development while simultaneously facilitating academic dishonesty. It can reduce teacher workload while creating new responsibilities for pedagogical verification and ethical oversight. accordingly, the future of ELT should not be framed as a competition between teachers and machines. The more productive model is a human-AI partnership in which technology expands pedagogical possibilities while human teachers retain responsibility for educational

purpose, contextual judgement, ethical decision-making, and learner development.

The proposed Human-Centred AI-Mediated ELT Model—Independent Production, AI Interaction, Critical Evaluation, Human Revision, and Reflection—provides one possible framework for achieving this balance. future empirical research should test this model across different educational contexts, learner proficiency levels, language skills, and institutional settings. Longitudinal research is particularly necessary to determine whether AI-supported improvements in immediate performance translate into sustained language development and independent communicative competence. the future question for English Language Teaching is therefore not simply Can AI teach English? It is more fundamentally: How can English teachers and learners use AI without surrendering the human, critical and communicative dimensions of language learning? The answer will determine whether generative AI becomes merely another educational technology or a catalyst for a more reflective, inclusive, and learner-centred model of English Language Teaching

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