AI-DRIVEN ASSESSMENT AND FEEDBACK IN LANGUAGE EDUCATION: A REVIEW OF2024–2025 STUDIES

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Abstract. *Rapid advances in generative artificial intelligence (AI) have transformed assessment and feedback practices in language education. This article synthesizes recent empirical studies (2024–2025) that examine AI-generated feedback, AI-assisted instruction, and student perceptions of AI scoring in English language learning contexts. Findings indicate that AI feedback can be pedagogically comparable to teacher feedback, particularly in EFL writing improvement, while hybrid instructional models integrating AI enhance students' cognitive engagement and writing outcomes. However, challenges such as academic integrity, over-reliance on AI, lack оыf transparency, and unequal access persist. The article argues that effective and ethical implementation requires teacher and student AI literacy, transparent policies, and integration of AI into pedagogically grounded instructional models. The results highlight both the transformative potential and the risks of AI-driven assessment in contemporary language education.*

Keywords: *artificial intelligence, AI feedback, AI assessment, EFL writing, language education, generative AI, student perceptions*

Introduction. The emergence of advanced generative artificial intelligence (AI) systems, particularly large language models (LLMs), has significantly influenced language education by reshaping feedback, assessment, and instructional practices. Traditional teacher feedback – while pedagogically rich – is often constrained by time, class size, and workload. AI tools, capable of producing instantaneous and detailed feedback, offer a scalable solution to persistent limitations in language classrooms. Yet, the pedagogical value, validity, and learner reception of AI-driven feedback remain under investigation.

This articlesynthesizes contemporary research (2024–2025) on AI-driven assessment and feedback within English language learning. It examines empirical evidence comparing AI and human feedback, explores student perceptions and trust in AI scoring, and reviews AI-assisted instructional models in reading and writing. The paper aims to provide a balanced, evidence-based understanding of AI's benefits, limitations, and implications for future language education.

Literature Review. Alnemrat et al., (2025) conducted one of the most comprehensive recent studies comparing AI-generated and teacher-provided feedback in EFL argumentative writing. Their quasi-experimental design, involving 120 undergraduate learners, showed that both feedback types significantly improved writing performance, with no statistically significant difference between them. The findings from Manzoor (2025,p 879) suggest that AI feedback, when prompt-engineered effectively, can match teacher feedback in facilitating writing development. Wang (2024) investigated how artificial intelligence (AI) applications can personalize learning experiences in

educational contexts, emphasizing the potential for adaptive technologies to cater to individual student needs. The study finds that AI-driven personalized learning enhances student engagement, facilitates differentiated instruction, and improves overall learning outcomes by dynamically adjusting content and feedback based on each learner's progress and skills (Wang,2024, pp. 7–9). The work also notes key challenges, including the need for data privacy safeguards and the risk of reduced teacher-student interaction as AI becomes more integrated into instructional design.

Understanding how students evaluate AI-generated input is critical to its adoption. Thomas et al. (2025,p.4) found that students often could not distinguish between human and AI feedback. However, once informed of the source, they tended to trust human scoring more, while remaining moderately positive toward AI feedback. Familiarity with AI increased acceptance but also made learners more critical of AI limitations. These findings highlight the importance of transparency and AI literacy in classroom implementation.Alfredo et al. (2024) presented a systematic literature review focused on human-centred learning analytics (LA) and artificial intelligence (AI) in education. The main idea is to examine how AI-driven analytics can support teaching and learning while centering human values – such as transparency, agency, privacy, and collaboration – throughout the design and use of educational technologies. Key findings indicate that while AI and LA offer strong potential for enhancing personalized feedback, student support, and instructional decision-making, their effectiveness is highly contingent on ethical considerations, meaningful stakeholder participation, and the creation of explainable, user-friendly systems. The authors emphasized the ongoing need for participatory approaches in the development of these tools to ensure they genuinely benefit both learners and educators (Alfredo et al., p 18).

Ng et al. (2021) argued that AI literacy requires not only understanding how AI systems function but also developing the ability to critically evaluate AI-generated decisions. They emphasize that effective AI-driven evaluation depends on users' capacity to assess the reliability, fairness, and transparency of algorithmic outputs, especially given risks such as bias, opacity, and misuse. The authors highlight that evaluation is both a technical and ethical competence, requiring knowledge of data training processes, algorithmic limitations, and the need for human oversight. Consequently, they advocate for educational approaches that explicitly teach learners how to interpret, question, and responsibly use AI-derived assessments.

Beyond feedback, AI is increasingly employed to improve reading comprehension. Liu and Qiao (2025,p 5-7) proposed a deep-learning-based AI instructional model for high-school English reading. Their results showed improvements in higher-order thinking, cognitive engagement, and autonomous learning, suggesting that AI can support deeper comprehension processes when grounded in sound pedagogical theory.

Daud et al. (2025) synthesized literature from 2020–2024, revealing writing assistance and language assessment as the most common AI applications. They emphasized recurring challenges, including over-reliance on AI, risks of academic dishonesty, and unequal access, calling for stronger ethical frameworks and teacher preparation. Their findings underscore the need for responsible and pedagogically informed integration. Additionally to that, Asadiet al.(2025) examined AI-assisted

instruction in an IELTS writing course, where teachers used AI as a "copilot" to deliver individualized feedback. Students showed measurable gains across coherence, lexical resource, and grammatical accuracy. Qualitative data reinforced positive learner perceptions of AI-supported instruction, indicating strong potential for hybrid models combining teacher expertise with AI scalability. Similarly, Agbayahoun (2016) investigated teacher-written feedback practices in EFL writing classrooms, revealing significant gaps between teachers' intentions and learners' perceptions. While teachers report providing comprehensive corrective feedback, students often find this input insufficiently clear, specific, or helpful for improving their drafts. The study identified a persistent mismatch between teachers' focus on promoting accuracy and autonomous revision and learners' desire for more direct, detailed corrections. These findings underscore the need for feedback practices that combine explicit error identification with constructive, actionable guidance aligned to learners' proficiency levels.

Discussion. The synthesis of recent research illustrates that AI-driven feedback and assessment hold substantial promise for enhancing English language learning, yet their pedagogical impact is shaped by complex interactions among effectiveness, learner perception, and systemic constraints. Consistent with earlier work on feedback practices (Agbayahoun, 2016), contemporary findings demonstrate that while teacher feedback remains pedagogically rich, AI-generated input can achieve comparable improvements in writing development when appropriately designed and implemented (Alnemrat et al., 2025, Manzoor, 2025). However, the mixed learner perceptions reported by Thomas et al. (2025) and the emphasis on AI literacy by Ng et al. (2021) indicate that the value of AI feedback depends not only on its linguistic accuracy but also on students' ability to interpret, trust, and critically evaluate algorithmic decisions. This supports broader arguments within human-centred AI scholarship, which highlight that transparency, user agency, and ethical safeguards are crucial to sustainable integration (Alfredo et al., 2024, Wang, 2024). Beyond writing, evidence from Liu and Qiao (2025) and Asadi et al. (2025) shows that AI can meaningfully contribute to instructional innovation in reading and writing, improving higher-order thinking, engagement, and language accuracy when used as a pedagogical support rather than a replacement for teachers. Yet recurring challenges – including academic integrity risks, over-dependence on automated tools, and unequal digital access – persist across contexts (Daud et al., 2025), reaffirming the need for institutional policies and teacher professional development that ensure responsible use. Taken together, the literature suggests that the most effective pathway forward lies in hybrid instructional models that leverage the scalability and immediacy of AI while preserving the nuance, judgment, and relational aspects of human expertise. Such an approach not only mitigates the limitations identified across studies but also aligns with learners' expectations for feedback that is clear, actionable, and pedagogically meaningful.

Yet effectiveness depends on careful deployment. AI systems must be guided through clear prompts and embedded in instructional design. Without mediation, learners risk accepting feedback uncritically or relying excessively on automated suggestions.

Learner Trust, Transparency, and AI Literacy. Thomas (2025) highlights the psychological dimension of AI adoption: perceptions of fairness, accuracy, and transparency directly influence student engagement with AI feedback. Learners who trust AI are more likely to use it effectively, but blind trust may also obscure its limitations. Therefore, instruction must incorporate explicit discussions about AI's role, capabilities, and weaknesses.

Developing **AI literacy** – for both teachers and students – is essential. This includes understanding how AI generates feedback, evaluating feedback critically, and applying revisions independently.

Hybrid Approaches as the Future of AI in Language Education. Studies such as Asadi (2025) and Liu & Qiao (2025) demonstrate that the most effective AI implementations involve hybrid models, where teachers retain control over pedagogy while AI enhances personalization, scaffolding, and formative assessment. Such models reduce teacher workload while improving consistency and immediacy of feedback.

Hybrid approaches also align with ethical considerations. Teacher involvement mitigates risks of AI bias, academic dishonesty, and misuse.

Risks and Ethical Considerations.

Across studies, recurring challenges appear:

— Over-reliance on AI may hinder independent language production (Daud et al., 2025).

— Academic dishonesty arises when students use AI to generate entire assignments.

— Equity issues persist when access to digital tools varies across institutions or socioeconomic groups.

— Lack of transparency in AI scoring can undermine trust.

Addressing these challenges requires institutional policies, ethical guidelines, and structured pedagogical frameworks.

Results. The synthesized findings across the reviewed literature indicate that AI-generated feedback demonstrates effectiveness comparable to that of human teachers in enhancing learners' argumentative writing skills in EFL contexts (Alnemrat et al., 2025). At the same time, studies show that learners' perceptions of such feedback remain ambivalent: familiarity with AI tools tends to increase acceptance, yet persistent concerns about accuracy, reliability, and trust continue to complicate students' overall attitudes (Thomas et al., 2025). The evidence further suggests that AI technologies contribute meaningfully to instructional innovation, offering notable pedagogical benefits in areas such as reading comprehension support and the development of students' writing abilities (Liu & Qiao, 2025, Asadi, 2025). Despite these advantages, researchers highlight systemic challenges that hinder widespread implementation, including ongoing risks to academic integrity and persistent inequalities in learners' access to digital resources (Daud et al., 2025). Across the studies, the most effective pedagogical approach appears to be a hybrid instructional model, one that thoughtfully integrates teacher expertise with AI-driven support to maximize learning outcomes.

Summary of Synthesized Findings Across the Literature:

Key Finding	Description	Sources
Effectiveness of AI Feedback	AI-generated feedback performs on par with teacher feedback in improving learners' EFL argumentative writing skills.	Alnemrat et al. (2025)
Learner Perceptions of AI	Students show mixed perceptions: acceptance increases with familiarity, but concerns about accuracy and trust remain.	Thomas et al. (2025)
Instructional Innovation	AI tools enhance pedagogical practices, especially by supporting reading comprehension and writing development.	Liu & Qiao (2025), Asadi (2025)
Systemic Challenges	Issues such as academic integrity risks and unequal digital access hinder effective and equitable implementation of AI tools.	Daud et al. (2025)
Hybrid Instruction Model	The most effective approach is combining teacher expertise with AI-generated support to optimize learning outcomes.	Across studies

Conclusion. AI-driven assessment and feedback represent a powerful and increasingly validated advancement in language education. Evidence from recent empirical studies indicates that AI feedback can effectively support writing development, complement teacher instruction, and enrich reading comprehension through adaptive, deep-learning-based models. However, responsible implementation requires attention to learner perceptions, ethical challenges, and the potential for misuse.

AI should not replace teachers but supplement their work, enabling more personalized, efficient, and scalable assessment practices. To fully realize AI's potential, educators and institutions must prioritize AI literacy, transparency, and pedagogically grounded integration. Future research should explore long-term impacts across diverse contexts, address ethical deployment, and develop frameworks for equitable and meaningful AI use in language classrooms.

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