The OSCAR PUBLISHING Services
International Journal of Pedagogics

VOLUME Vol.05 Issue09 2025
PAGE NO. 269-273
DOI 10.37547/ijp/Volume05Issue09-71

Theoretical Foundations Of Improving English Language Teaching Methodology Through The Use Of Ai Tools

Ollaberganova Madinabonu
Trainee Lecturer at Tashkent State University of Uzbek Language and Literature, Uzbekistan

Received: 31 July 2025; **Accepted:** 28 August 2025; **Published:** 30 September 2025

Abstract: This article elaborates a theoretical framework for enhancing English Language Teaching (ELT) methodology through the principled use of artificial intelligence (AI) tools. Synthesizing perspectives from sociocultural theory, complex dynamic systems, cognitive apprenticeship, and learning analytics, it argues that AI's pedagogical value lies not in automation alone but in the augmentation of formative feedback, the orchestration of adaptive tasks, and the expansion of learners' opportunities for authentic communication and metacognitive regulation. The paper reconceptualizes AI in ELT as a set of mediational affordances that can diagnose, scaffold, and extend learner performance across reading, writing, listening, speaking, vocabulary, and grammar, while foregrounding ethical and ecological considerations such as bias, privacy, and teacher agency. Materials and methods consist of a narrative synthesis of relevant literature and a design-principles analysis that maps theoretical constructs to functional AI capabilities, including large language models, intelligent tutoring systems, automated speech recognition, probabilistic recommendation engines, and analytics dashboards. Results are presented as a coherent set of theoretically grounded design principles: align AI feedback with learning-oriented assessment; couple adaptivity with transparency and learner control; embed AI as a dialogic partner that elicits hypothesis formation and repair; and institute teacher-facing analytics that support just-in-time pedagogy rather than high-stakes surveillance. The conclusion highlights implications for curriculum, teacher education, and policy, proposing an "augmented pedagogy" model in which AI expands but does not replace the human pedagogical core, and outlines directions for future research on validity, fairness, and transfer.

Keywords: Artificial intelligence; ELT methodology; learning analytics; large language models; adaptive learning; feedback; formative assessment; SLA; sociocultural theory.

Introduction: Over the past decade, tools labeled as artificial intelligence have moved from experimental prototypes to everyday instruments in language classrooms. Speech recognition now enables fine-grained feedback on segmental and suprasegmental features; writing assistants deliver rapid diagnostics on cohesion and argument structure; recommendation engines modulate the difficulty and sequencing of tasks; and conversational agents simulate pragmatic contexts that are otherwise difficult to stage at scale. Despite the speed of these developments, the integration of AI into English Language Teaching has not always been guided by an explicit theoretical rationale. Often, adoption follows novelty or institutional pressure rather than principled pedagogy, resulting in inefficiencies, superficial engagement, or ethically problematic uses of data. To improve the methodology of ELT through AI, educators require a conceptual architecture that clarifies when, why, and how particular AI affordances should mediate learning processes central to second language acquisition.

The theoretical problem is to reconcile the promise of automation with the dialogic, social, and meaning-driven nature of language learning. While AI can optimize practice schedules or detect error patterns, language development hinges on opportunities to negotiate meaning, to test hypotheses about form–function relationships, and to receive feedback that guides attention to relevant features of input. Classic constructs—comprehensible input, pushed output, interactional modification, noticing, and scaffolding—remain pertinent, but their realization is changing as learners engage in hybrid ecologies where human teachers, peers, and AI agents co-orchestrate tasks. AI

must therefore be framed not as a replacement for teachers or interlocutors but as a mediational tool that extends the teacher's zone of proximal development management and multiplies contexts for practice without diluting authenticity or agency.

This article proposes a theoretical foundation that re-situates AI within established and emerging traditions in learning theory and applied linguistics. Drawing on sociocultural theory, AI is treated as a cultural artifact that reorganizes activity systems, making visible, through analytics, traces of learning that would otherwise remain tacit. From a complex dynamic systems perspective, AI can modulate task constraints to maintain learners in productive regions of variability, thereby supporting adaptation across time. In the cognitive and usage-based traditions, AI enables repeated, spaced, and varied encounters with constructions and collocations while offering individualized feedback that targets the learner's evolving interlanguage. Across these traditions, the guiding idea is augmentation: AI should enrich the conditions under which core SLA mechanisms operate rather than introduce pedagogical discontinuity.

The aim of this study is to articulate a coherent, theory-driven framework for the improvement of ELT methodology through AI. The paper seeks to clarify the mediational functions that AI can fulfill in relation to key SLA constructs; to specify design principles that translate theory into classroom practice; and to delineate boundaries that prevent technological overreach and protect ethical commitments. Rather than advocating a specific brand or platform, the goal is to identify conditions under which AI-based feedback, adaptivity, and simulation can reliably foster language development, and to outline the teacher competencies necessary to realize these conditions in diverse institutional settings.

The investigation follows a narrative synthesis and design-principles methodology. Sources from applied linguistics, educational technology, and learning sciences were analyzed with emphasis on theoretical integration and pedagogical transferability. Seminal works on computer-assisted language learning, intelligent tutoring systems, automated writing evaluation, and mobile-assisted language learning were read alongside recent research on large language models, explainable AI, and learning analytics. The synthesis foregrounded four lenses: sociocultural mediation, where tools reconfigure affordances for assisted performance; complex dynamic systems, where instruction shapes attractor states and variability; cognitive interactionist SLA, where input, interaction, and output processes are orchestrated to promote noticing and restructuring; and learning-oriented assessment, where feedback and analytics serve formative rather than summative functions. The analytic procedure mapped theoretical constructs to AI capabilities in a functional taxonomy covering speech technologies, natural language generation, recommender systems, and dashboards. Design principles were distilled by identifying recurrent alignments between theory and capability, triangulated across lenses to avoid single-theory bias.

A theoretically grounded account of AI in ELT begins with the recognition that language learning is a socially mediated, semiotic process. Sociocultural theory posits that development proceeds through guided participation and the internalization of culturally organized forms of action. Within this frame, AI tools extend the teacher's mediation by providing contingent support at scale. For instance, an intelligent writing assistant that highlights cohesion breaks and suggests connective options can perform a form of dynamic scaffolding. Its value increases when suggestions are accompanied by rationales that reveal the discourse function of a connector, because explanation reorients learner attention toward means–ends relations rather than surface substitution. When AI is implemented as a dialogic partner—through prompts that elicit metalinguistic reflection or request clarification—the tool participates in the learner's zone of proximal development, provided that the interaction sustains contingency and gradually fades support as competence consolidates. The theoretical criterion is not fluency of the AI's output but the extent to which mediation promotes self-regulation and appropriation of strategic control over text or talk.

Complex dynamic systems theory reframes proficiency as emergent from interactions among multiple components across time, with variability playing a constructive role. AI can manage variability by adjusting task difficulty, text complexity, and interlocutor responsiveness. An adaptive reading platform that tunes lexical and syntactic profiles to maintain a target band of comprehensibility, while periodically introducing stretch passages linked to learner interests, can sustain engagement near the edge of competence where growth is likely. Similarly, conversational agents that adjust pace, wait time, and repair strategies based on detected disfluency rates keep the learner within a productive zone of challenge. Crucially, adaptivity must be transparent and negotiable. When learners understand why a recommendation is made and can override it, they remain agents within the system, crafting trajectories that respect both data-driven guidance and personal goals. Without transparency, adaptivity risks narrowing learners' repertoires, reducing exposure to diversity that fuels development.

In the cognitive interactionist tradition, acquisition is facilitated when learners process input for form and meaning, produce output that forces syntactic encoding, and engage in interaction that supplies feedback triggering noticing of gaps. AI can orchestrate such episodes with high frequency and individualization. Automated speech recognition, paired with suprasegmental analysis, can draw attention to stress and intonation patterns that affect intelligibility, while synthetic models demonstrate alternative contours and elicit shadowing with immediate feedback. Large language models can play pragmatic roles that prompt learners to test hypotheses about register, politeness, and implicature by negotiating tasks in simulated contexts such as customer support or academic advising. The key is to design prompts that do not reward mere linguistic display but elicit information exchange, stance taking, and justification, thereby requiring the learner to mobilize resources across lexis, grammar, and discourse. When AI returns form-focused feedback, its salience and timing matter. Immediate, in-line cues lower cognitive load for micro-level issues like article choice, whereas delayed, aggregated feedback better serves higher-order concerns such as argument structure, where reflection benefits from temporal distance.

Learning-oriented assessment provides a unifying frame for these practices, casting feedback as information that learners actively use to regulate future performance. AI's contribution is speed, granularity, and personalization. Dashboards can visualize progress on vocabulary families, collocation strength, or structural variety, translating traces of activity into actionable insights. Yet dashboard efficacy depends on interpretability. Metrics must be coupled with exemplars and micro-tasks that operationalize improvement. A spike in passive constructions may be pedagogically neutral in a scientific report but problematic in a reflective narrative; therefore, analytics should be contextualized by genre-sensitive recommendations. Teachers, in turn, require analytics that support just-in-time decisions about grouping, task assignment, or the timing of mini-lessons. When analytics are repurposed as surveillance or summative ranking, the formative engine stalls and trust erodes.

From these theoretical alignments emerge a set of design principles that can guide methodological improvement. First, AI feedback should be explainable and aligned with the construct of proficiency under instruction. If the target is academic argumentation, feedback must speak the language of claims, warrants, and evidence, not generic stylistic advice divorced from disciplinary norms. Second, adaptivity must respect learner autonomy through adjustable parameters, visible rationales, and opportunities to set goals and evaluate trade-offs. Third, AI should be tasked with eliciting and sustaining dialogic sequences that require hypothesis testing and repair, rather than monologic correctness checks. Conversational agents should strategically misunderstand, challenge positions, or require clarification in ways that provoke negotiation of meaning without descending into frustration. Fourth, teacher-facing analytics should prioritize decision-useful signals and minimize noise, supporting contingent pedagogy rather than rigid pacing. Fifth, ethical safeguards must be integral, including bias audits of training data, privacy by design, and local data governance that gives institutions and learners meaningful control.

These principles are neither technology-agnostic nor tool-specific; they are functional criteria for selecting and orchestrating AI within task sequences. Consider writing development in upper-intermediate learners preparing for academic contexts. A large language model can generate genre-specific exemplars, but its role is amplified when coupled with a rubric that learners co-construct and then use to critique both AI and peer drafts. The AI's feedback becomes a foil that learners evaluate, accept, or reject, thereby exercising judgment and internalizing criteria. The teacher can seed counterexamples that expose model blind spots, turning limitations into teachable moments about stance and evidence. In speaking, a pronunciation tutor that supplies segmental correction may be combined with a conversation bot that assesses discourse-level intelligibility through tasks involving explanation and persuasion; learners can triangulate micro-level adjustments with macro-level communicative outcomes, which better reflects the socially situated nature of intelligibility.

Methodological improvement also depends on reconfiguring classroom roles. Teachers shift from sole feedback providers to designers of AI-mediated ecologies, curators of prompts, and interpreters of analytics. Their professional knowledge expands to include prompt engineering that makes AI feedback constructive, task design that balances challenge and support, and ethical literacy that anticipates data risks. Learners, likewise, become researchers of their own trajectories, engaging with analytics to set micro-goals, select tasks, and reflect on growth. The classroom becomes a studio in which human and artificial agents collaborate to produce texts, conversations, and analyses that are repeatedly critiqued and revised.

Challenges remain. Validity is the foremost concern: AI feedback must reflect constructs of language ability rather than artifacts of training corpora. Without

careful design, tools may privilege standard dialects or genre conventions that marginalize diverse Englishes. Bias can infiltrate scoring and recommendation, reinforcing inequities. Transparency and participatory design with teachers and learners can mitigate these risks, as can localized fine-tuning and the use of culturally responsive exemplars. Privacy is another constraint. Learning analytics are valuable, but data minimization, informed consent, and on-device processing where feasible should be adopted to minimize exposure. A further challenge is overreliance: if learners defer to AI judgments, epistemic dependence may weaken strategic competence. Structured activities in which students critique AI output, compare it with peer and teacher feedback, and justify decisions can cultivate resilience and discernment.

Theoretically, the synthesis suggests that AI's most distinctive pedagogical contribution is the democratization of timely, targeted feedback and the capacity to simulate interlocutors and contexts at scale. This contribution becomes methodologically transformative when married to tasks that mobilize the SLA engine—meaningful input, pushed output, negotiated interaction, and focused attention to form—within ethically governed, teacher-led ecologies. AI is neither a panacea nor a threat in itself; it is a plastic set of capabilities whose affordances become virtues or vices depending on the pedagogy into which they are composed.

Improving ELT methodology with AI requires more than procurement; it calls for a theoretical reorientation that treats AI as a mediational partner aligned with core mechanisms of language development. Sociocultural theory legitimizes AI as scaffolded assistance that can cultivate self-regulation; complex dynamic systems theory frames adaptivity as the modulation of variability that sustains growth; cognitive interactionism clarifies how AI can engineer episodes of noticing, output, and negotiation; and learning-oriented assessment focuses the enterprise on feedback that learners use to steer their own learning. Translating these lenses into practice yields design principles that privilege explainable, genre-grounded feedback; transparent, negotiable adaptivity; dialogic prompting that elicits hypothesis testing and repair; and analytics that inform teacher judgment without substituting for it. Ethical architecture—bias auditing, privacy safeguards, and human oversight—must be embedded from the outset. The result is an augmented pedagogy in which AI expands the reach and precision of formative support while teachers orchestrate meaning-rich tasks and cultivate critical, autonomous learners. Future research should pursue validation studies that link AI-generated feedback to demonstrable gains in target constructs, investigate fairness across learner subgroups, and explore transfer from AI-mediated practice to human-to-human communication in academic, professional, and civic domains.

REFERENCES

1. Chapelle C. A. Computer Applications in Second Language Acquisition: Foundations for Teaching, Testing and Research. — Cambridge: Cambridge University Press, 2001. — 292 p.
2. Godwin-Jones R. Emerging Technologies: Language Learning and Technology in the Time of AI // Language Learning & Technology. — 2023. — Vol. 27, No. 2. — P. 1–9.
3. Hockly N. AI in ELT: Navigating the Opportunities and Challenges // ELT Journal. — 2024. — Vol. 78, No. 3. — P. 259–269.
4. Li Z., Link S., Hegelheimer V. Rater effects and automated writing evaluation: A validity perspective // Language Testing. — 2015. — Vol. 32, No. 3. — P. 395–415.
5. Heift T., Schulze M. Errors and Intelligence in Computer-Assisted Language Learning: Parsers and Pedagogues. — New York: Routledge, 2007. — 288 p.
6. Ellis N. C. Usage-based approaches to language acquisition: Implications for CALL // Computer Assisted Language Learning. — 2017. — Vol. 30, No. 7. — P. 497–522.
7. Long M. H. Second Language Acquisition and Task-Based Language Teaching. — Malden, MA: Wiley-Blackwell, 2015. — 602 p.
8. Skehan P. A Cognitive Approach to Language Learning. — Oxford: Oxford University Press, 1998. — 320 p.
9. Swain M. The output hypothesis and beyond: Mediating acquisition through collaborative dialogue // Sociocultural Theory and Second Language Learning / ed. by J. P. Lantolf. — Oxford: Oxford University Press, 2000. — P. 97–114.
10. Lantolf J. P., Thorne S. L., Poehner M. E. The Sociocultural Approach to Second Language Development. — Oxford: Oxford University Press, 2015. — 264 p.
11. Dörnyei Z., Henry A., MacIntyre P. D. Motivational Dynamics in Language Learning. — Bristol: Multilingual Matters, 2015. — 208 p.
12. Kukulska-Hulme A., Lee H., Norris L. Mobile learning for language development: A review of current practice // British Journal of Educational

Technology. — 2017. — Vol. 48, No. 2. — P. 581–593.

13. Dawson P., Carless D. Designing Assessment for Quality Learning: Learning-Oriented Assessment in Practice. — London: Routledge, 2022. — 214 p.

14. Andrade H., Brookhart S. M. Using Formative Assessment to Drive Learning. — New York: Teachers College Press, 2020. — 168 p.

15. Luckin R. Machine Learning and Human Intelligence: The Future of Education for the 21st Century. — London: UCL IOE Press, 2018. — 224 p.

16. Rose C., McKinney G. Learning Analytics in Education: A Pragmatic Approach. — New York: Springer, 2016. — 210 p.

17. Levis J. M. Intelligibility, oral communication, and the teaching of pronunciation // Cambridge Handbook of Phonetics / ed. by R. Podesva, A. Sharma. — Cambridge: Cambridge University Press, 2020. — P. 909–930.