AI AND METHODOLOGY: CONSCIOUS AND PURPOSEFUL INTEGRATION OF ARTIFICIAL INTELLIGENCE IN ENGLISH LANGUAGE TEACHING (ELT)

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Abstract: This article explores the conscious and purposeful integration of generative artificial intelligence (AI) in English Language Teaching (ELT). Moving beyond mere automation, the study examines the transition from the traditional teacher-student dyad to a complex Teacher–Student–AI triad, guided by Human-in-the-Loop (HITL) theory. By utilizing an expanded TPACK-AI framework, the research identifies core dimensions of AI literacy necessary for modern educators to maintain human agency in automated processes.

The discussion analyzes AI's role as a "cognitive co-pilot" that enhances personalization and efficiency while addressing systemic risks such as AI hallucinations, algorithmic bias, and academic integrity concerns. The study concludes that while AI streamlines material generation and adaptive feedback, it cannot replace the human touch—the teacher's essential role in providing emotional support and cultural context. The proposed framework serves as a strategic roadmap for educators to harness technological innovation while keeping human judgment at the center of language learning.

Keywords: Generative AI, English Language Teaching (ELT), Human-in-the-Loop (HITL), TPACK-AI, AI Literacy, Cognitive Co-pilot.

Introduction

In the current era of the digital revolution, generative artificial intelligence (AI) is not merely an addition to English Language Teaching (ELT) but a force fundamentally restructuring its methodological foundations. Tools such as ChatGPT, Microsoft Copilot, and Google Gemini have opened new horizons for automating and personalizing the creation of teaching materials, ranging from leveled reading passages to interactive quizzes. Despite these innovations, traditional ELT often remains tethered to static textbooks and high manual workloads; recent statistics indicate that 60% of teachers experience burnout due to intensive preparation demands.

While AI offers a solution to these time constraints—potentially reducing material preparation time by 30%—its presence in the classroom does not inherently guarantee pedagogical success. A significant concern is that many students and educators adopt "surface-level engagement," using AI for quick translations or one-click text generation without critical oversight. This risk of "cognitive offloading" can undermine independent thinking and authentic language production. Therefore, the educational imperative has shifted from mere adoption to the conscious and purposeful integration of AI [Abstract, 112].

This article explores the transformation of the traditional teacher-student dyad into a complex Teacher–Student–AI triad. Guided by Human-in-the-Loop (HITL) theory, which emphasizes human oversight in automated systems, we argue for positioning AI as a "cognitive co-pilot" rather than an autonomous agent. To address the existing skills gap—where 76% of teachers

use AI tools but only 20% feel sufficiently trained—we utilize an expanded TPACK-AI framework to identify core dimensions of AI literacy essential for modern educators

Here are the expanded versions of the main body sections for your conference article, enriched with specific evidence, theoretical models, and practical examples from the sources.

Methodological Potentials and the Human-in-the-Loop (HITL) Framework

The integration of generative AI (GenAI) into ELT has fundamentally transformed the traditional teacher-student dyad into a more dynamic Teacher–Student–AI triad. This new instructional ecology offers significant affordances for language acquisition. For instance, AI-powered tools provide scalable, low-stakes environments for oral practice—such as interacting with personal voice assistants like Alexa or specialized apps like ELSA Speak—which help reduce learner anxiety while providing immediate pronunciation feedback. In writing, neural machine translation and grammar checkers like Grammarly allow learners to produce more linguistically complex texts with greater lexical variation.

However, the efficacy of these tools depends on Human-in-the-Loop (HITL) theory, which posits that technology should not function as an autonomous agent but as a "cognitive co-pilot" guided by human oversight. To move beyond surface-level engagement—where students simply use AI for one-click translations or essay generation—we operationalize HITL through a three-level interactive framework:

1. Level 1: Basic Assistance (AI as Tool): AI functions in the background to support material generation and routine tasks. Research indicates that AI can reduce teacher preparation time by 30%, saving hours on lesson planning and quiz creation. At this level, the teacher maintains full control, auditing AI outputs for "hallucinations" or factual errors before they reach the classroom.
2. Level 2: Collaborative Innovation (AI as Partner): Students interact directly with AI under teacher supervision. For example, in a "negotiated loop," students might use AI to brainstorm subtopics for a presentation on "Cultural Collision" while the teacher monitors for unoriginal work and prompts students to refine their arguments critically.
3. Level 3: Reflective Optimization (AI as System): This symbiotic stage involves continuous feedback where students move from being mere tool users to "co-builders" of the learning environment. AI agents can simulate historical characters or act as "literary tutors," adapting their explanations in real-time based on the depth of student inquiry.

By keeping the human in the loop, educators ensure that AI serves as a scaffold that enhances cognitive engagement rather than a shortcut that bypasses critical reasoning.

The TPACK-AI Model and Ethical Literacy

For the conscious integration of AI to succeed, educators must possess specialized competencies defined by the expanded TPACK-AI model. This framework identifies six core dimensions of AI literacy essential for modern teachers: conceptual understanding, technical proficiency, pedagogical integration, adaptive expertise, ethical reasoning, and self-efficacy.

A particularly critical dimension is ethical reasoning. AI systems are trained on massive datasets that often reflect mainstream Western worldviews, which can reinforce linguistic and ideological biases. For example, AI frequently marginalizes regional dialects or non-standard forms of English, promoting a "standardized" version of the language that may alienate learners from diverse backgrounds. Furthermore, the lack of transparency in how algorithms operate—the "explainability problem"—makes it difficult for users to question biased results.

Rather than avoiding these biases, the TPACK-AI model suggests leveraging them as pedagogical tools to cultivate critical thinking. In a "Business English" case study, students were tasked with comparing AI-generated narratives on geopolitically sensitive topics (like ByteDance's IPO delay) with local authentic news sources. By identifying omissions and "reconstructing" the discourse from alternative viewpoints, students transformed a technological limitation into a deep learning opportunity for intercultural awareness.

Finally, the sources emphasize that despite the sophistication of these machines, the "human touch" remains irreplaceable. Teachers perform vital roles that AI cannot replicate: providing emotional encouragement, moral guidance, and a nuanced understanding of cultural contexts. While 76% of teachers already use AI tools, only 20% feel sufficiently trained. Therefore, the path forward requires not just more tools, but structured professional development that builds self-efficacy, empowering teachers to audit machine behavior and ensure it aligns with humanistic values.

Conclusion

In summary, the integration of generative AI into English Language Teaching (ELT) represents a profound shift that necessitates a move from passive adoption to a conscious and purposeful pedagogical strategy. As this research has demonstrated through the lenses of Human-in-the-Loop (HITL) theory and the TPACK-AI framework, the effectiveness of AI is not inherent in the technology itself but is determined by the quality of human oversight and the depth of instructional design. While empirical evidence highlights significant benefits—including a 15% improvement in student performance and a 30% reduction in teacher preparation time—these gains are only sustainable when AI is positioned as a "cognitive co-pilot" rather than an autonomous agent.

The transformation of the traditional classroom into a Teacher–Student–AI triad requires educators to embrace new roles as orchestrators and auditors of algorithmic behavior. We must remain vigilant against the risks of "illusory facilitation" and cognitive offloading, where polished machine outputs can mask a lack of conceptual depth and undermine independent thinking. Furthermore, addressing algorithmic bias and ensuring data privacy are not merely technical hurdles but ethical imperatives that must be integrated into teacher training and institutional policies.

Ultimately, the findings of this study underscore that the "human touch"—the teacher's unique ability to provide emotional encouragement, cultural nuance, and moral guidance—remains the most vital component of the learning process. AI should be viewed as a tool to amplify human potential, liberating educators from routine administrative burdens so they can focus on high-level mentorship and the cultivation of critical, autonomous learners.

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