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WHEN ASSISTANCE REPLACES THINKING: ARTIFICIAL INTELLIGENCE, COGNITIVE ENGAGEMENT, AND ACADEMIC RESPONSIBILITY IN UNIVERSITY EFL CONTEXTS

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Abstract. The rapid expansion of artificial intelligence (AI) tools in higher education has profoundly altered how students read, write, and interact with academic language. In university English as a Foreign Language (EFL) contexts, AI is increasingly positioned as a supportive technology that enhances efficiency, accuracy, and learner confidence. However, this article argues that such framing risks overlooking the deeper cognitive and pedagogical consequences of AI-mediated language use. Drawing on applied linguistics, cognitive psychology, academic literacy studies, and critical pedagogy, the study critically examines how reliance on AI may reshape learners' engagement with effort, meaning-making, and intellectual responsibility. Using a qualitative, interpretive synthesis of existing research combined with reflective analysis rooted in university EFL teaching practice, the article identifies emerging patterns of academic dependency that challenge traditional understandings of learning and authorship. The paper argues that when linguistic assistance replaces cognitive struggle, language risks losing its function as a tool for thinking. The study concludes by proposing pedagogical principles for ethically and intellectually grounded AI integration in university EFL instruction.

Keywords: artificial intelligence, EFL, academic literacy, cognitive engagement, higher education, pedagogy

Introduction. Artificial intelligence has become an ordinary presence in contemporary university life. Tools capable of generating academic prose, paraphrasing complex texts, correcting grammar, and simulating dialogue in English are now widely accessible to students across the globe. In English as a Foreign Language (EFL) contexts, these technologies have been embraced with particular enthusiasm, as they appear to address long-standing challenges associated with linguistic insecurity, limited exposure to academic discourse, and the cognitive demands of writing in a second language.

Much of the current discourse surrounding AI in education frames it as a neutral or even inherently beneficial innovation. AI is often described as a means of democratizing access to academic language, reducing anxiety, and increasing productivity (Godwin-Jones, 2018; Kohnke, Zou, & Zhang, 2023). From this perspective, AI enhances learner autonomy by allowing students to overcome linguistic barriers independently. However, this outcome-focused narrative tends to obscure the processes through which learning occurs. What remains insufficiently examined is how AI alters the cognitive labor traditionally associated with language use in higher education.

Universities are not simply training centers for communicative efficiency. They are institutions devoted to cultivating disciplined thinking, critical reasoning, and epistemic responsibility. Language plays a central role in this mission. Through writing, discussion, and reflection, students do not merely express ideas; they actively construct them. The difficulty of articulating meaning is often inseparable from the difficulty of understanding it. When AI systems increasingly intervene in these processes, they risk removing the productive struggle that underpins deep learning (Bjork & Bjork, 2011).

In EFL contexts, this risk is particularly acute. Learners already operate under linguistic pressure, and the availability of AI offers immediate relief from uncertainty and effort. Yet when assistance becomes substitution, language shifts from being a medium of thought to a polished

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product delivered on demand. This shift raises fundamental questions about what it means to learn, to author, and to think in an AI-mediated academic environment.

This article argues that the primary pedagogical challenge posed by AI in university EFL instruction is not technological but cognitive and ethical. The concern is not whether students use AI, but how such use reshapes their relationship with effort, responsibility, and meaning-making. By critically examining AI through the lens of cognitive engagement and academic literacy, this study seeks to contribute to a more reflective and human-centered understanding of language learning in higher education.

The aim of this study is to critically examine the cognitive, pedagogical, and ethical implications of artificial intelligence use in university-level English as a Foreign Language (EFL) instruction, with particular attention to how AI-mediated language practices influence learners' intellectual engagement and academic responsibility.

The specific objectives of this study are to:

- examine how artificial intelligence is conceptualized, justified, and normalized within university EFL instruction;
- analyze the impact of AI-assisted language production on learners' cognitive engagement and depth of processing;
- explore how reliance on AI reshapes students' perceptions of effort, authorship, and academic responsibility;
- investigate the implications of AI use for academic literacy development in EFL contexts;
- critically reflect on the ethical responsibilities of university EFL educators in mediating AI integration;
- propose pedagogically grounded principles for integrating AI into EFL instruction without undermining intellectual development.

Research Questions

1. How is artificial intelligence currently conceptualized and utilized in university-level EFL instruction?
2. In what ways does AI-assisted language production influence learners' cognitive engagement and depth of understanding?
3. How does reliance on AI tools affect students' perceptions of academic effort, responsibility, and authorship?
4. What are the implications of AI-mediated language use for academic literacy development in EFL contexts?
5. How do university EFL teachers negotiate the pedagogical and ethical tensions surrounding AI integration?
6. What pedagogical principles can support responsible AI use while preserving cognitive depth and intellectual rigor?

Literature Review. Artificial Intelligence and Language Learning in Higher Education

The integration of artificial intelligence into language education has been widely discussed in recent years, often framed through narratives of innovation, efficiency, and pedagogical modernization. Within higher education, AI-driven tools such as automated writing assistants, grammar checkers, and text generators are frequently promoted as solutions to persistent challenges faced by EFL learners, particularly those related to academic writing and linguistic confidence (Godwin-Jones, 2018; Kohnke et al., 2023). From this perspective, AI is positioned as a form of pedagogical support that compensates for learners' limited linguistic resources and reduces the cognitive burden associated with writing in a second language.

However, a growing body of critical scholarship cautions against overly optimistic interpretations of AI's role in learning. Zawacki-Richter et al. (2019) argue that much of the existing research focuses on technical affordances while neglecting pedagogical and

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epistemological consequences. In EFL contexts, this imbalance is particularly problematic, as language is not merely a vehicle for communication but a central means through which academic thinking is developed and expressed.

Several studies have noted that AI-assisted writing often leads to improvements in surface-level features such as grammatical accuracy and lexical sophistication (Li, 2022). Yet these improvements do not necessarily correspond to deeper conceptual engagement. When students rely on AI to generate or substantially revise academic texts, the process of meaning-making may be displaced by textual optimization. This creates a situation in which language appears more advanced than the thinking that underlies it.

Importantly, the literature also highlights institutional factors that accelerate AI adoption. Universities increasingly operate under pressures of efficiency, productivity, and measurable outcomes. In such environments, AI aligns well with administrative priorities, even when its pedagogical implications remain underexplored. As a result, AI becomes normalized not through careful deliberation, but through convenience and necessity. This normalization sets the stage for a reconfiguration of learning practices that warrants sustained critical attention.

Cognitive Effort, Productive Struggle, and Learning. Cognitive psychology has long emphasized that learning is not a smooth or effortless process. On the contrary, meaningful learning often emerges from difficulty, uncertainty, and sustained engagement with challenging material. The concept of "productive struggle" captures this idea by highlighting how effortful processing contributes to durable understanding and transfer of knowledge (Bjork & Bjork, 2011). In language learning, struggle is not merely incidental; it is constitutive of development.

For EFL learners in higher education, cognitive effort is closely intertwined with linguistic effort. When students attempt to articulate complex ideas in a second language, they must simultaneously manage content, structure, and linguistic form. This multidimensional challenge often results in hesitation, reformulation, and revision—processes that signal active cognitive engagement rather than deficiency. Research on cognitive load theory similarly suggests that while excessive difficulty can overwhelm learners, removing challenge altogether undermines learning by reducing opportunities for schema construction (Sweller et al., 2011).

AI tools complicate this dynamic by significantly reducing the visible difficulty of language production. When learners receive instant, polished formulations, they are relieved of the need to wrestle with linguistic choices. While this may increase short-term productivity, it risks diminishing the cognitive processes through which understanding is constructed. The literature increasingly suggests that such displacement of effort may weaken learners' metacognitive awareness and self-regulatory skills.

In university contexts, where students are expected to engage in abstract reasoning and independent inquiry, the erosion of cognitive struggle has serious implications. If AI consistently intervenes at moments of difficulty, learners may come to associate learning with ease rather than effort. Over time, this association can reshape students' expectations of academic work and their tolerance for intellectual discomfort, ultimately narrowing the depth of their engagement.

Academic Literacy, Authorship, and Epistemic Agency. Academic literacy research provides a critical lens through which to examine the implications of AI-mediated language use. Rather than viewing academic writing as a neutral skill, scholars emphasize that it involves participation in socially situated practices of knowledge construction (Lea & Street, 2006). From this perspective, learning to write academically is inseparable from learning how knowledge is produced, evaluated, and claimed within disciplines.

AI challenges this process by introducing ambiguity into the notion of authorship. When students submit texts that are partially or largely generated by AI, the relationship between the writer and the text becomes unstable. Bretag et al. (2019) note that such instability raises ethical questions, but it also has pedagogical consequences. Authorship is not merely about ownership;

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it is about responsibility for ideas. When that responsibility is diffused, epistemic agency may weaken.

Several scholars argue that AI risks promoting what might be described as "procedural literacy"—the ability to produce acceptable academic texts without engaging deeply with their intellectual content. While such literacy may satisfy formal requirements, it does little to support students' development as critical thinkers. In EFL contexts, where students already negotiate linguistic marginalization, the loss of epistemic agency can further distance them from academic participation. Thus, the literature suggests that AI does not simply change how students write; it alters how they position themselves as knowers within the university. This shift demands careful pedagogical consideration.

Methodology. This study adopts a qualitative, interpretive methodology that combines critical synthesis of interdisciplinary literature with reflective pedagogical analysis grounded in university EFL teaching practice. The choice of methodology reflects the exploratory and conceptual nature of the research questions, which seek to understand how AI reshapes cognitive engagement, rather than to measure learning outcomes quantitatively.

Critical synthesis involves systematic engagement with existing research across applied linguistics, educational psychology, academic literacy studies, and higher education pedagogy. Rather than aggregating findings, this approach interrogates underlying assumptions and identifies patterns in how AI is framed and justified within educational discourse. This method is particularly appropriate for emerging phenomena, where empirical evidence is still developing and conceptual clarity is needed.

Reflective analysis is employed as a complementary methodological tool. In applied linguistics, reflective practitioner inquiry is widely recognized as a legitimate source of insight, especially when addressing complex classroom realities that resist simple measurement (Maxwell, 2012). Reflection in this study is not anecdotal, but analytically informed by theory and sustained teaching experience.

Together, these approaches allow for a nuanced examination of AI as a pedagogical phenomenon embedded in institutional, cognitive, and ethical contexts. The methodology prioritizes depth of understanding over generalizability, aligning with the study's aim to contribute conceptual clarity rather than prescriptive solutions.

Discussion. The analysis reveals a growing disjunction between linguistic performance and cognitive engagement in AI-mediated EFL learning. Students increasingly submit work that is fluent, cohesive, and stylistically appropriate, yet often detached from sustained reasoning or personal intellectual investment. This pattern suggests not a failure of learning, but a transformation of what learning looks like.

AI redistributes cognitive labor. Tasks that once required learners to formulate ideas through language are now partially outsourced. While this redistribution can support learners in certain contexts, it becomes problematic when it obscures the boundary between assistance and substitution. Teachers report difficulty assessing genuine understanding, as traditional indicators of proficiency lose reliability.

Moreover, AI reshapes classroom dynamics. Students may participate more confidently, yet this confidence is sometimes performative rather than grounded in comprehension. Over time, such dynamics risk privileging appearance over substance, reinforcing surface engagement at the expense of depth.

Importantly, these effects are not the result of student misconduct, but of structural conditions that normalize AI use without pedagogical guidance. The discussion therefore shifts responsibility from individual learners to institutional and instructional frameworks that have yet to adapt meaningfully.

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Ethical and Pedagogical Implications. Ethically, AI challenges fundamental principles of academic integrity, fairness, and responsibility. When students rely unevenly on AI, disparities emerge that are difficult to regulate. More subtly, AI complicates the moral dimension of learning by weakening the link between effort and achievement.

Pedagogically, EFL educators face the task of redesigning learning environments. This includes creating assignments that require critical engagement with AI output, encouraging transparency, and valuing process over product. Teachers must also help students develop ethical awareness of AI use, framing it as a tool that demands judgment rather than a shortcut to success.

Such pedagogical shifts require institutional support. Without clear guidelines and professional development, responsibility is unfairly placed on individual teachers. Ethical AI integration must therefore be understood as a collective educational endeavor.

Conclusion. Artificial intelligence is not simply a new tool in university EFL education; it is a force that reshapes how learning is experienced and understood. When assistance replaces thinking, language loses its role as a medium of inquiry, and education risks becoming performative.

This article has argued for a reflective, human-centered approach to AI integration—one that preserves cognitive struggle, intellectual responsibility, and epistemic agency. Rather than rejecting AI, universities must cultivate pedagogies that ensure technology serves learning, not the other way around.

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