

The use of AI-powered tools to improve metacognitive processes in EFL learning

Metacognitive processes, such as planning, monitoring, and evaluation, are essential for fostering learner autonomy, self-regulation, and long-term success in English as a Foreign Language (EFL) learning. With the growing integration of artificial intelligence (AI) in education, particularly in language learning technologies, there is increasing interest in how AI can support metacognitive development. This literature review investigates how AI-powered tools can enhance metacognitive processes in EFL learning. Drawing on recent studies, the paper explores the roles of adaptive learning platforms, virtual tutors, chatbots in promoting learners' metacognitive processes. It highlights how personalized feedback, real-time analytics, and reflective prompts embedded in these tools provide scaffolding for metacognitive development without requiring explicit teacher-led instruction. The findings suggest that AI can simulate meaningful interaction, guide learners through complex tasks, and provide ongoing support for goal-setting, self-monitoring, and performance evaluation. These tools not only personalize the learning experience but also foster strategic thinking, making them highly relevant in today's AI-driven learning environments. Implications for TESOL include rethinking instructional design to incorporate intelligent systems that promote learner independence and metacognitive awareness, ultimately contributing to more effective and engaging EFL instruction in the digital age.

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