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Generative AI and Learner Autonomy in EFL Education: Rethinking Independent Language Learning

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ABSTRACT

The emergence of generative artificial intelligence has significantly altered the conditions under which learners engage in independent language learning. In EFL education, generative AI tools provide learners with unprecedented access to explanations, language practice, feedback, examples, conversational interaction, and personalized learning assistance without requiring continuous intervention from teachers. These affordances appear to support learner autonomy by enabling students to determine what they want to learn, when they want to learn, and what forms of assistance they require. However, increased technological access does not necessarily lead to greater autonomy. Excessive dependence on AI-generated responses may reduce learners' opportunities to make decisions, evaluate information, solve linguistic problems independently, and develop confidence in their own learning abilities. This library research critically examines the relationship between generative AI and learner autonomy in EFL education by synthesizing scholarly literature concerning independent learning, self-regulated learning, AI-assisted language learning, learner agency, feedback, personalization, and critical AI literacy. The thematic analysis indicates that generative AI can strengthen learner autonomy when it functions as a resource that supports goal setting, strategy selection, feedback interpretation, self-monitoring, and reflection. Conversely, autonomy may be weakened when learners use AI as a substitute for cognitive effort or delegate learning decisions to technological systems. The study argues that independent language learning in the age of generative AI should not be understood as learning without technological assistance, but as the capacity to exercise informed control over technology while retaining responsibility for learning decisions. This reconceptualization positions learner autonomy, rather than technological independence, as a central principle for sustainable AI-supported EFL education.

Keywords: *EFL Education, Independent Language Learning, Self-Regulated Learning, AI Literacy*

INTRODUCTION

Learner autonomy has long been regarded as an important objective of language education because successful language development extends beyond what can be achieved through classroom instruction alone (Penuel et al., 2020). EFL learners are expected to gradually develop the capacity to identify their learning needs, establish goals, select appropriate strategies, monitor their progress, and evaluate the effectiveness of their learning activities. Autonomous learning therefore involves more than studying without direct teacher supervision. It encompasses the ability to exercise purposeful control over learning processes and to assume responsibility for decisions concerning what, how, when, and why learning takes place (Goodwin, 2020). In EFL contexts, this capacity is particularly important because opportunities to use English may be limited outside formal educational environments. Learners who can independently seek resources, practice language skills, identify weaknesses, and regulate their learning are more likely to sustain language development beyond the classroom (de Carvalho-Filho et al., 2020).

The emergence of generative artificial intelligence has substantially expanded the resources available to learners who seek to study independently (Svendsen, 2020). Unlike earlier digital language-learning technologies that generally provided predetermined exercises, automated corrections, or fixed learning materials, generative AI can engage learners in dynamic interaction. Learners can ask questions, request explanations at different levels of complexity, generate examples, practice conversations, obtain feedback, explore vocabulary, revise writing, and receive individualized responses according to their immediate needs. These capabilities potentially reduce some of the barriers associated with independent language learning, particularly the limited availability of personalized feedback and interaction outside the classroom (Hays & Reinders, 2020). Generative AI can therefore create a learning environment in which learners have continuous access to linguistic assistance without necessarily depending on the physical presence of a teacher.

However, the growing accessibility of generative AI also creates a conceptual problem for the traditional understanding of learner autonomy. If learners can obtain an immediate answer to almost any linguistic question, generate a model text, request a correction, or ask an AI system to complete a difficult task, it becomes necessary to reconsider what it means to learn independently. Independent learning cannot simply be equated with the absence of teachers or the availability of self-access resources because generative AI may itself become a highly influential source of guidance. The central question is therefore whether using AI represents an extension of learner autonomy or a new form of dependency. A learner who independently decides to consult AI, critically evaluates its response, and uses the information to solve a problem may demonstrate substantial autonomy. In contrast, a learner who automatically asks AI to solve every linguistic difficulty may become increasingly dependent on the technology despite appearing technologically self-sufficient.

This tension becomes particularly visible in language learning activities that require learners to engage in cognitive effort (Kawuryan et al., 2021). Language development involves noticing linguistic patterns, retrieving vocabulary, constructing sentences, testing hypotheses, making errors, receiving feedback, and modifying language use. These processes are not merely obstacles that technology should eliminate. They are themselves important components of learning. When generative

AI provides immediate solutions, learners may experience greater efficiency, but efficiency does not necessarily correspond to deeper learning. If students routinely rely on AI to formulate ideas, select vocabulary, correct sentences, translate expressions, or generate responses before attempting these activities independently, opportunities for retrieval, problem solving, and self-monitoring may be reduced. The challenge for EFL education is therefore to distinguish between AI use that scaffolds independent learning and AI use that gradually replaces the learner's own cognitive participation (Hamsiah et al., 2022).

Learner agency provides an important perspective for understanding this distinction. Although learner autonomy and learner agency are closely related, they are not identical (Syukkur & Fauzan, 2021). Autonomy emphasizes learners' capacity to take responsibility and exercise control over their learning, whereas agency highlights learners' capacity to act intentionally within particular social, technological, and educational conditions. Generative AI changes these conditions by introducing a powerful non-human participant into the learning environment. Learners now make decisions not only about learning materials and strategies but also about how to interact with an AI system. They must determine what questions to ask, how much assistance to request, whether an AI response is reliable, how to adapt the response to their own learning needs, and when technological assistance should be avoided. Consequently, autonomous learning in AI-mediated environments requires learners to exercise control not only over their learning but also over their relationship with technology (Al Ayyubi et al., 2024; Al Ayyubi, Prayetno, et al., 2025; Birgin & Acar, 2022; Farias-Gaytan et al., 2022; Palomino et al., 2019).

Another important dimension concerns personalization. Generative AI can respond to individual questions and potentially adapt explanations to learners' perceived needs. This creates opportunities for highly individualized learning experiences that may be difficult to achieve in large EFL classrooms. Learners can ask for simpler explanations, additional examples, alternative exercises, conversational practice, or feedback focused on specific linguistic difficulties. Such personalization may strengthen motivation and self-directed learning because learners can pursue learning activities that correspond more closely to their immediate goals. Nevertheless, personalization generated by AI should not be confused with genuine learner control. If the technological system determines what learners should practice or continuously directs their learning decisions, personalization may become technologically controlled rather than learner controlled. Genuine autonomy requires learners to remain capable of questioning and modifying the direction of their learning.

The issue of critical evaluation is equally important. Generative AI systems can produce fluent and persuasive language, but fluency does not guarantee accuracy, contextual appropriateness, pedagogical suitability, or alignment with a learner's intended meaning. EFL learners may therefore accept AI-generated explanations simply because they appear authoritative and linguistically sophisticated. This creates a new dimension of learning responsibility because autonomous learners must be able to evaluate technological assistance rather than merely consume it. AI literacy consequently becomes closely connected to learner autonomy. Learners need to understand both the possibilities and limitations of generative AI, recognize potential

inaccuracies, compare AI responses with other sources, and determine whether a particular recommendation genuinely contributes to their learning objectives.

Existing research on technology-enhanced language learning has established important relationships among autonomy, self-directed learning, self-regulation, digital resources, and learner agency. More recent scholarship has increasingly examined generative AI in relation to language learning, writing development, feedback, conversational practice, personalization, and student perceptions. Nevertheless, the emerging literature remains conceptually fragmented. Some studies emphasize the potential of AI to personalize learning and provide immediate assistance, whereas others highlight risks related to dependency, reduced critical thinking, academic integrity, and diminished human interaction. The relationship between these apparently contradictory outcomes requires deeper synthesis. In particular, there is a need to distinguish between technological access and autonomous learning because the ability to obtain immediate assistance may increase convenience without necessarily increasing learners' capacity to regulate and control their learning.

This study addresses this gap by critically examining how generative AI is reshaping the concept of learner autonomy in EFL education. Rather than assuming that AI either promotes or threatens autonomy, the study conceptualizes the relationship as conditional and dependent on how learners regulate their interaction with technology. The novelty of this perspective lies in repositioning autonomy from the traditional idea of learning independently from teachers and toward the more complex capacity to exercise informed control within technologically mediated learning environments. The study therefore examines how generative AI influences independent language learning, how AI-supported personalization and feedback affect learner control, what forms of dependence may emerge, and what pedagogical conditions are necessary to ensure that technological assistance strengthens rather than substitutes learner autonomy.

METHOD

This study employed library research using a qualitative and interpretive approach (Creswell & Creswell, 2017). The method was selected because the purpose of the study was to critically examine and synthesize existing scholarly knowledge concerning generative AI, learner autonomy, and independent language learning in EFL education. Rather than collecting primary data from a particular group of learners, the study treated published academic literature as the principal source of evidence. This approach enabled the study to examine theoretical perspectives and empirical findings from different educational contexts and to identify patterns, tensions, and conceptual developments that may not be visible within a single empirical study. Particular attention was given to literature concerning learner autonomy, self-directed learning, self-regulated learning, learner agency, artificial intelligence in language education, generative AI, AI-assisted language learning, personalized learning, feedback, and AI literacy.

The literature was identified through scholarly databases and academic search platforms using combinations of keywords related to the central concepts of the study. Search terms included "generative AI," "ChatGPT," "learner autonomy," "EFL education," "independent language learning," "self-directed language learning,"

"self-regulated learning," "learner agency," "AI-assisted language learning," "AI literacy," "personalized learning," "AI feedback," and "language learning autonomy." Recent literature was prioritized because generative AI represents a rapidly developing technological field whose educational implications continue to change. At the same time, foundational publications concerning learner autonomy, self-regulation, agency, and language learning were retained because they provide the theoretical basis required to interpret contemporary AI-mediated learning practices.

The selection of literature was guided by relevance, scholarly quality, conceptual contribution, and contextual alignment with EFL education. Studies were considered relevant when they examined the use of generative AI or related artificial intelligence technologies in language learning or addressed theoretical dimensions of autonomy and independent learning that were directly applicable to AI-mediated environments. Literature focusing exclusively on technical development without educational implications was given limited consideration. The review also distinguished between studies that examined learners' perceptions of AI and studies that provided evidence concerning actual learning behavior, regulation, decision-making, or autonomous learning practices. This distinction was important because positive perceptions of AI do not necessarily indicate increased autonomy.

The selected literature was analyzed through thematic synthesis. The analysis focused on several interconnected dimensions, including access to learning resources, personalization, feedback and scaffolding, self-regulation, learner decision-making, critical evaluation, technological dependency, learner agency, and responsibility. Findings from the literature were compared to identify areas of convergence and disagreement. Particular attention was given to conditions under which generative AI may support or constrain autonomy. The synthesis subsequently developed a conceptual interpretation of independent language learning in which autonomy is understood not as freedom from technological assistance but as the learner's continuing ability to determine the purposes, boundaries, and uses of that assistance. This interpretive process enabled the study to move beyond a simple positive or negative evaluation of generative AI and toward a more nuanced understanding of its role in autonomous EFL learning.

RESULT AND DISCUSSION

RESULT

The literature indicates that generative AI substantially expands learners' access to resources for independent language learning. Learners can obtain explanations, examples, vocabulary support, writing assistance, conversational practice, and feedback without waiting for classroom instruction or teacher responses. This immediacy can reduce the practical limitations that traditionally constrain autonomous learning, particularly for learners who have limited opportunities to interact with proficient English speakers. Generative AI can also support learners at different levels because the same system can provide simplified explanations, additional examples, advanced discussions, or targeted practice depending on the learner's request. The literature therefore suggests that AI can strengthen the resource dimension of learner autonomy by increasing the availability and flexibility of learning support.

A related finding concerns the potential of generative AI to facilitate personalized learning. Conventional classroom environments often require teachers to accommodate diverse learners within limited instructional time. Generative AI can provide individualized responses to specific linguistic questions and allow learners to repeat or modify requests according to their needs. Learners can ask for alternative explanations when an initial explanation is unclear, request additional exercises when they require practice, or focus on particular language difficulties. This flexibility can encourage learners to take greater responsibility for identifying and addressing their own learning needs. However, personalization becomes pedagogically meaningful only when learners remain involved in determining what they need to learn. AI-generated personalization that operates without learner awareness or decision-making may increase convenience without necessarily developing autonomy.

The literature also highlights the importance of AI-supported feedback for autonomous learning. Feedback can help learners recognize gaps between their current performance and desired performance, making it an important component of self-regulated learning. Generative AI can provide immediate responses to writing, vocabulary, grammar, pronunciation-related questions, and communicative choices. Such feedback can enable learners to identify problems while they are actively engaged in learning rather than waiting for formal assessment. Nevertheless, the effectiveness of AI feedback depends on the learner's ability to interpret it. Autonomous learners do not simply accept feedback as an authoritative correction. They consider whether the feedback is accurate, relevant to their goals, appropriate to the context, and consistent with their intended meaning. The literature therefore positions feedback interpretation as an important point at which AI use can either strengthen or weaken autonomy.

Another major finding concerns the relationship between generative AI and self-regulated learning. Independent language learning requires learners to establish goals, select strategies, monitor progress, and evaluate outcomes. Generative AI can potentially support each of these activities by helping learners formulate study plans, create practice materials, obtain feedback, and reflect on performance. However, the technology can also interfere with self-regulation when learners allow AI to determine learning goals or provide solutions before they have attempted to solve problems themselves. The distinction between support and substitution is therefore central. AI can function as a scaffold when it helps learners perform activities they are gradually able to manage independently. It becomes a potential source of dependency when learners increasingly rely on it to perform activities that are essential for the development of their own linguistic and metacognitive abilities.

The findings further indicate that learner autonomy is closely connected to the ability to regulate the intensity and purpose of AI use. Autonomous learners are not necessarily those who use AI frequently or those who avoid it completely. Rather, autonomy is reflected in the appropriateness of their technological decisions. A learner may demonstrate strong autonomy by deliberately choosing not to use AI for a particular task because independent practice is necessary for learning. Another learner may demonstrate autonomy by using AI extensively for feedback while independently evaluating and revising the suggestions. This suggests that the quantity of AI use is an inadequate indicator of autonomy. The more meaningful issue

is whether learners retain control over when, why, and how AI becomes part of their learning process.

The literature also reveals a growing concern regarding cognitive offloading. Generative AI can reduce the effort required to complete many language-learning activities, including brainstorming, translation, vocabulary retrieval, sentence construction, and text revision. Although reducing unnecessary cognitive burden can be beneficial, excessive offloading may prevent learners from engaging in productive struggle. Language learning requires repeated opportunities to retrieve knowledge, make decisions, notice errors, and construct meaning. If AI consistently provides answers before learners attempt these processes themselves, learners may become efficient at obtaining solutions without becoming more capable of producing those solutions independently. This creates a particularly important challenge for EFL education because visible task completion may increase while underlying language-learning development remains limited.

Another finding concerns the development of critical AI literacy as a condition for autonomy. Learners need to understand that generative AI does not function as an infallible language authority. AI-generated responses can contain factual errors, linguistic inaccuracies, inappropriate recommendations, or explanations that are too general for a particular context. Autonomous learning therefore increasingly requires learners to verify and evaluate technological output. This may involve comparing AI responses with textbooks, dictionaries, teacher feedback, corpus evidence, or other credible sources. The ability to recognize uncertainty and challenge AI-generated information becomes part of the learner's responsibility. Consequently, digital competence alone is insufficient; autonomous AI-supported learning requires critical technological judgment.

The findings also indicate that the teacher's role remains significant despite the expansion of AI-mediated independent learning. Generative AI may reduce learners' dependence on teachers for immediate explanations and routine feedback, but it does not eliminate the pedagogical value of teachers. Teachers can help learners establish meaningful learning goals, develop appropriate strategies, recognize problematic AI use, evaluate technological output, and reflect on their learning behavior. Rather than functioning exclusively as information providers, teachers increasingly serve as facilitators of autonomous learning and critical AI use. This shift suggests that learner autonomy in AI-supported environments is not equivalent to removing teachers from the learning process. Instead, teachers can create the conditions through which students gradually become capable of using technological resources without surrendering control over their learning.

DISCUSSION

The findings require a reconsideration of what independent language learning means in an environment characterized by ubiquitous generative AI (Kulkov et al., 2024). Traditional understandings of autonomy often emphasize learners' ability to learn independently, make choices, and assume responsibility without continuous teacher direction. In an AI-mediated environment, however, technological assistance has become deeply embedded in the conditions under which such choices are made. Independence can therefore no longer be defined simply as the absence of external assistance. A learner may use substantial technological support and remain highly

autonomous if the learner determines the purpose, evaluates the assistance, and retains responsibility for the resulting learning (Farias-Gaytan et al., 2022). Conversely, a learner may appear independent because they study without a teacher while remaining highly dependent on AI for basic cognitive and linguistic decisions.

This distinction suggests that learner autonomy should increasingly be conceptualized as the capacity to exercise control within technologically mediated learning environments. Such control involves intentional decisions about the role that technology should play in a particular learning activity. The autonomous learner does not ask only whether AI can provide an answer but also whether receiving that answer is educationally appropriate at that moment. This distinction is particularly important because some forms of difficulty are pedagogically productive. Struggling to retrieve a word, formulate a sentence, organize an argument, or interpret a grammatical pattern may contribute to learning. If AI immediately removes every difficulty, learners may complete tasks more efficiently while losing opportunities to develop the very capacities that independent learning is intended to cultivate (Al Ayyubi, Rahmawati, et al., 2025).

The relationship between AI and autonomy is therefore better understood in terms of regulation than access. Generative AI creates an environment of abundant assistance, but abundance can itself become a challenge. When resources are limited, learners must decide how to obtain assistance. When resources are nearly unlimited, learners must additionally decide when assistance should be refused, delayed, questioned, or verified. This changes the nature of autonomy. The autonomous learner in an AI-rich environment needs not only the ability to seek help but also the ability to regulate help-seeking. Knowing when to ask AI, what to ask, how much assistance to request, and when to attempt a task independently becomes an important dimension of autonomous language learning (Ibrahim & Harun, 2024).

This issue is particularly relevant to the concept of scaffolding. Generative AI can provide useful scaffolding by offering hints, examples, explanations, or alternative formulations. Effective scaffolding should support learners while allowing them to remain active participants in the learning process. If AI provides complete solutions too early or too frequently, however, scaffolding may become substitution. The difference lies in the learner's cognitive involvement. An AI explanation that helps a learner understand why a sentence is grammatically problematic may contribute to learning (Dörnyei & Ushioda, 2021; Ökmen et al., 2020; Prokopiv & Stynska, 2023). An AI-generated replacement sentence that the learner accepts without understanding the underlying problem may improve the immediate product but contribute less to independent language development. Assessment and pedagogy should therefore distinguish between AI use that promotes understanding and AI use that merely produces correct answers.

The findings also have significant implications for self-regulated learning. Autonomous learners need opportunities to plan, monitor, and evaluate their learning. Generative AI can potentially strengthen these processes by helping learners formulate goals, generate personalized practice, and provide immediate feedback. Yet the same technology can undermine self-regulation if learners become passive recipients of AI-generated recommendations. For example, an AI system may suggest what a learner should practice, but the learner still needs to determine whether that recommendation corresponds with personal goals and actual learning needs. Self-

regulation therefore requires learners to remain the primary decision-makers even when AI is capable of making seemingly useful recommendations.

Another important implication concerns motivation and confidence. Generative AI may reduce anxiety associated with making mistakes because learners can practice privately and request repeated explanations without fear of judgment. This may encourage learners to engage more frequently with English and experiment with language. However, excessive dependence can produce a paradoxical reduction in confidence. If learners become accustomed to asking AI to verify every sentence or generate every response, they may become less confident in their ability to act without technological confirmation. Autonomy therefore involves developing not only the ability to access assistance but also the confidence to function without constant assistance when appropriate. Pedagogical practices should consequently create deliberate opportunities for independent performance alongside AI-supported activities (Adhikari & Shrestha, 2023; Arifin et al., 2022; Budiharso & Tarman, 2020; Tatto, 2021).

The role of reflection becomes particularly important in this context. Reflection enables learners to consider what they learned, why they used AI, whether the assistance was useful, and what they could accomplish independently. Without reflection, AI use may remain primarily instrumental. With reflection, technological interaction can become a source of metacognitive learning. EFL learners can be encouraged to examine which AI suggestions they accepted or rejected, what errors they discovered in AI responses, and how their understanding changed as a result of interaction. Such reflective activities can transform AI from an answer-producing system into a resource through which learners develop greater awareness of their own learning processes.

The findings also suggest that AI literacy should be integrated with language-learning pedagogy rather than treated as a separate technological skill. Knowing how to formulate effective prompts is useful, but autonomous learners require broader competencies. They need to understand how generative AI produces responses, recognize its limitations, evaluate output, protect academic and intellectual integrity, and determine when human expertise is necessary. These competencies are directly connected to learner autonomy because they influence the learner's ability to make informed decisions about technological assistance. AI literacy should therefore be viewed as part of contemporary learning autonomy rather than simply as digital competence.

The implications for teachers are equally substantial. The expansion of AI-supported independent learning does not mean that teachers should withdraw from the learning process. Instead, teachers may need to devote greater attention to helping learners develop the capacity to use AI strategically. Classroom instruction can include activities in which students compare independent attempts with AI-generated responses, critique AI explanations, identify inaccurate feedback, and explain why particular AI suggestions are appropriate or inappropriate. Such activities position AI as an object of critical inquiry as well as a learning resource. They also allow teachers to observe whether students are becoming more capable of regulating technological assistance rather than merely becoming more proficient at using it.

From an assessment perspective, learner autonomy should increasingly be evaluated through evidence of decision-making and self-regulation rather than

through the simple completion of AI-supported tasks. A final language product may demonstrate performance, but it provides limited information about how much responsibility the learner retained. Process-oriented assessment can address this limitation by asking learners to articulate their goals, explain their use of AI, document significant decisions, evaluate AI-generated suggestions, and reflect on what they learned. Such evidence can help distinguish between technological dependence and autonomous technological use. It also aligns assessment more closely with the broader educational goal of developing learners who can continue learning beyond formal instruction.

The conceptual contribution of this study is therefore a shift from viewing learner autonomy as independence from others toward understanding it as responsible control within complex learning environments. Generative AI does not necessarily make learners more or less autonomous. Its influence depends on the relationship established between the learner and the technology. When learners use AI to expand opportunities, obtain strategic support, evaluate alternatives, and reflect on their learning while retaining responsibility for decisions, AI can become a powerful resource for autonomy. When learners transfer essential cognitive decisions to AI and become unable or unwilling to act without technological assistance, the same technology may contribute to dependency. The critical issue is therefore not technological presence but the distribution of control, responsibility, and cognitive effort.

CONCLUSION

Generative AI is transforming the conditions under which EFL learners engage in independent language learning. Its capacity to provide immediate explanations, personalized practice, feedback, examples, conversational interaction, and language support creates unprecedented opportunities for learners to access assistance beyond the classroom. These affordances can strengthen learner autonomy by enabling students to identify their needs, select resources, regulate learning activities, and obtain support according to individual goals. However, the presence of technological assistance does not automatically produce autonomy. When learners rely on AI to perform essential cognitive and linguistic activities, the technology may reduce opportunities for independent problem solving, self-monitoring, productive struggle, and reflection.

The central argument of this study is that learner autonomy in the age of generative AI should not be understood as learning without technological assistance. Instead, autonomy increasingly involves the ability to exercise informed and purposeful control over technological assistance. Autonomous EFL learners need to determine when AI is useful, what type of assistance is appropriate, how much support should be requested, whether an AI response is reliable, and what learning decisions should remain their own. This reconceptualization recognizes that independence and technological assistance are not necessarily opposites. A learner can use AI extensively while remaining autonomous if the learner retains responsibility for goals, decisions, evaluation, and learning outcomes.

The study also demonstrates that the most important pedagogical challenge is to prevent AI from becoming a substitute for learning. Generative AI should function as a scaffold that supports learners' developing capacities rather than as a system that

removes the need for those capacities. EFL pedagogy should therefore provide structured opportunities for students to attempt tasks independently, interact critically with AI, compare technological suggestions with their own reasoning, verify information, and reflect on the consequences of their choices. Such practices can help ensure that technological convenience is translated into genuine learning rather than passive dependence.

The findings further imply that learner autonomy, AI literacy, self-regulated learning, and learner agency should be considered increasingly interconnected dimensions of contemporary EFL education. Learners require more than technical skills to interact effectively with generative AI. They need the metacognitive and critical capacities necessary to determine when technology contributes to their development and when it may interfere with it. Teachers consequently remain important as designers of learning environments that encourage responsible AI use, critical evaluation, independent performance, and reflective practice. The role of the teacher may shift from being the primary source of information toward facilitating students' capacity to manage abundant technological resources.

As a library research study, this article is limited by the scope, availability, quality, and methodological diversity of the existing literature. The rapidly changing nature of generative AI also means that conclusions drawn from current scholarship may require continuous reassessment as technologies and educational practices evolve. Future empirical research should examine how different patterns of AI use influence learner autonomy over time and across different EFL contexts. Particular attention should be given to the relationship between AI dependency, self-regulation, motivation, language proficiency, metacognitive awareness, and learner agency. Longitudinal studies may be especially valuable for determining whether frequent AI-supported learning produces sustainable autonomy or gradually increases dependence. Ultimately, the goal of AI integration in EFL education should not be to create learners who can rely on technology more efficiently, but learners who are increasingly capable of deciding when technology should be used, how it should be questioned, and when they should rely on their own knowledge and judgment.

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