Gerasi in Language Studies
E-ISSN: xxxx-xxxx
Volume 1, Issue 1, 2026, pp. 52-65
https://jurnal.gerakanedukasi.com/index.php/GILS/index

From Automation to Augmentation: Rethinking Generative AI in EFL Education

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ABSTRACT

The rapid advancement of generative artificial intelligence has introduced substantial changes to the ways English as a Foreign Language education can be designed, delivered, and experienced. Much of the early educational discourse surrounding generative AI has focused on automation, particularly its capacity to generate texts, provide immediate feedback, create instructional materials, answer questions, and perform tasks previously undertaken by teachers or learners. Although automation can improve efficiency and accessibility, an excessive emphasis on task replacement may overlook the broader educational potential of generative AI. This library research critically examines the conceptual shift from automation to augmentation in EFL education by synthesizing scholarly literature concerning generative AI, language teaching, learning support, feedback, personalization, teacher practice, learner agency, critical thinking, and AI literacy. Thematic analysis indicates that the educational value of generative AI extends beyond its ability to automate routine activities. When appropriately integrated, AI can augment human capabilities by expanding opportunities for language practice, supporting individualized learning, facilitating feedback and revision, assisting teachers in instructional design, and stimulating critical engagement with language and information. However, augmentation requires meaningful human participation because technological assistance can become counterproductive when it replaces cognitive effort, pedagogical judgment, or learner decision-making. The study argues that the future of GenAI in EFL education should be conceptualized not primarily in terms of automation and efficiency but in terms of human capability enhancement. Such a perspective positions generative AI as a complementary resource that extends what teachers and learners can accomplish while preserving human agency, critical judgment, creativity, contextual understanding, and responsibility as fundamental dimensions of language education.

Keywords: *Augmentation, Learner Agency, AI Literacy, Human Capability*

INTRODUCTION

The integration of digital technologies into English as a Foreign Language education has consistently been associated with efforts to increase accessibility, efficiency, personalization, and opportunities for language practice (Penuel et al., 2020). Earlier generations of educational technologies generally supported teachers and learners by providing digital materials, automated exercises, language resources, communication platforms, and tools for checking linguistic accuracy (Goodwin, 2020). The emergence of generative artificial intelligence represents a qualitatively different development because contemporary AI systems can produce language and educational content rather than simply retrieve predetermined information. Generative AI can create texts, formulate explanations, generate exercises, simulate conversations, provide feedback, summarize information, translate language, and respond dynamically to individual requests (Amilevna, 2023). These capabilities have generated considerable enthusiasm regarding the possibility of automating activities that have traditionally required substantial teacher or learner effort.

The concept of automation has therefore become prominent in discussions of generative AI in education. Automation generally refers to the delegation of particular tasks to technological systems with the expectation that those tasks can be completed more rapidly or efficiently. In EFL education, automation can involve generating instructional materials, correcting grammatical errors, producing model answers, preparing vocabulary exercises, providing preliminary writing feedback, or creating conversational prompts. From an institutional perspective, these possibilities are attractive because teachers often work under considerable time constraints and must accommodate learners with diverse needs. From a learner perspective, automation can provide immediate access to assistance and reduce barriers to completing language-learning activities. However, the efficiency associated with automation does not necessarily correspond to educational effectiveness. A task that can be completed more quickly is not always a task that should be removed from the learner's learning process (Steiner & Amabile, 2022).

This distinction is particularly important because language learning involves processes that are themselves educationally valuable. Learning English requires learners to retrieve linguistic knowledge, formulate meaning, experiment with language, encounter difficulties, recognize errors, interpret feedback, revise their performance, and gradually develop confidence in independent communication. If generative AI simply performs these activities on behalf of learners, it may improve immediate performance while reducing opportunities for learning. For example, asking AI to generate an essay may produce a linguistically sophisticated product, but it does not necessarily strengthen the learner's ability to formulate arguments and construct texts independently. Similarly, asking AI to correct every sentence may produce grammatical accuracy without ensuring that learners understand why their original sentences were problematic (Bakri & Yahaya, 2020; Lingga et al., 2023; Taiba et al., 2023). The central question should therefore not be whether AI can perform a task, but whether delegating that task contributes to or undermines the educational purpose of the task.

The concept of augmentation offers an alternative perspective. Rather than viewing technology primarily as a mechanism for replacing human activity, augmentation conceptualizes technology as a means of extending human capabilities.

Within EFL education, generative AI can augment learners' capacity to explore language, experiment with alternative expressions, obtain explanations, practice communication, and receive feedback. It can also augment teachers' capacity to develop instructional materials, differentiate activities, explore alternative pedagogical approaches, and respond to diverse learner needs (Fuad & Masuwd, 2023; Puspitacandri et al., 2020; Steiner & Amabile, 2022). Augmentation does not imply that humans become less important because technology performs more functions. Instead, it suggests that technology can increase what humans are capable of accomplishing when human judgment remains central to the process.

The distinction between automation and augmentation is closely connected to the concept of human agency. When technology automates a task, responsibility for completing that task is partially transferred to the technological system. When technology augments human capability, the learner or teacher remains actively involved in determining goals, interpreting information, evaluating alternatives, and making decisions. This distinction is particularly important in EFL education because language learning involves communicative intentions that cannot always be inferred from linguistic form alone. A sentence may be grammatically correct but inappropriate for a particular social relationship, cultural context, academic discipline, or communicative purpose. Generative AI can propose linguistic alternatives, but learners and teachers must determine whether those alternatives are appropriate. Human judgment therefore remains essential even when technological systems become increasingly capable (Hays & Reinders, 2020; Kawuryan et al., 2021; Svendsen, 2020).

Generative AI also changes the nature of access to educational support. Traditionally, access to individualized language assistance has been constrained by teacher availability, classroom size, institutional resources, and opportunities for communication outside school. AI can potentially provide learners with continuous opportunities to ask questions and receive responses. This can be particularly valuable in EFL contexts where learners have limited exposure to English beyond formal instruction. However, access alone does not constitute augmentation. If learners merely use AI to obtain ready-made answers, increased access may produce dependence rather than capability. The educational value of expanded access depends on whether learners use technological resources to develop their own knowledge and skills.

The same issue applies to teachers. Generative AI can automate certain aspects of lesson preparation and administrative work, potentially allowing teachers to reduce time spent on repetitive tasks. Teachers may use AI to generate draft lesson plans, create differentiated exercises, develop examples, formulate discussion questions, or produce preliminary feedback. Such assistance can be valuable when it frees teachers to focus on activities that require contextual and relational judgment. However, if teachers rely uncritically on AI-generated materials, automation may introduce new problems, including inaccurate content, inappropriate examples, cultural insensitivity, and pedagogical misalignment. The appropriate role of AI is therefore not to remove teacher judgment but to create additional capacity for teachers to exercise that judgment more strategically.

Another significant issue concerns critical thinking. The convenience of generative AI may encourage users to prioritize immediate answers over inquiry and

analysis. In EFL education, this creates a tension between efficiency and intellectual engagement. Learners may obtain an explanation immediately instead of attempting to infer a grammatical rule, ask AI to summarize a reading instead of interpreting it independently, or request a complete argument instead of developing one themselves. These practices can reduce cognitive engagement when technology becomes a substitute for thinking. Conversely, AI can augment critical thinking when learners use it to generate competing interpretations, identify weaknesses in an argument, compare alternative expressions, or challenge the limitations of an AI-generated response. The educational effect therefore depends on how the technology is positioned within the learning activity.

The growing literature on generative AI in education has examined a wide range of issues, including automated feedback, writing assistance, personalized learning, teacher workload, student engagement, academic integrity, AI literacy, and language development. Much of this research has understandably focused on what AI can do and whether it improves particular learning outcomes. However, an important conceptual gap remains concerning the distinction between automation and augmentation. Research may demonstrate that AI can complete tasks efficiently without determining whether completing those tasks through AI contributes to meaningful learning. Similarly, evidence that AI improves the quality of students' final products does not necessarily demonstrate that learners have developed stronger independent capabilities. A more comprehensive perspective is required to distinguish technological performance from educational value.

This study addresses that gap by critically examining generative AI in EFL education through the conceptual distinction between automation and augmentation. Rather than asking primarily which educational tasks can be transferred to AI, the study asks which human capacities can be strengthened through meaningful interaction with AI. The novelty of this perspective lies in repositioning generative AI from a task-substitution technology toward a capability-enhancing resource. The analysis considers how AI can augment learner development, teacher practice, feedback, language production, critical thinking, personalization, and reflective learning while identifying conditions under which automation may instead create dependency or reduce meaningful human engagement. The study ultimately argues that the future of GenAI in EFL education should be evaluated according to its contribution to human capability rather than technological efficiency alone.

METHOD

This study employed library research with a qualitative and interpretive orientation (Creswell & Creswell, 2017). The approach was selected because the purpose of the study was to critically examine and synthesize existing scholarship concerning the changing role of generative AI in EFL education rather than to evaluate a particular AI intervention through primary empirical data. Academic publications were treated as the principal sources of evidence, allowing the analysis to integrate theoretical perspectives, empirical findings, conceptual arguments, and emerging pedagogical debates. The review focused on literature addressing generative AI, artificial intelligence in language education, EFL learning, language teaching, AI-assisted writing, feedback, personalization, learner agency, teacher practice, critical thinking, AI literacy, automation, augmentation, and human-AI interaction.

Relevant literature was identified through scholarly databases and academic search platforms using combinations of keywords associated with the central concepts of the study. Search terms included "generative AI," "ChatGPT," "EFL education," "generative artificial intelligence in language teaching," "AI-assisted language learning," "automation in education," "AI augmentation," "human-AI collaboration," "learner agency," "teacher role," "AI feedback," "personalized learning," "AI literacy," and "critical thinking." Recent publications were prioritized because generative AI is a rapidly developing area of educational research. Foundational literature concerning technology-enhanced learning, learner agency, human-computer interaction, language pedagogy, and educational technology was also considered where necessary to establish the conceptual foundations of automation and augmentation.

The literature was selected according to relevance, scholarly quality, conceptual contribution, and applicability to EFL education. Studies were considered particularly relevant when they examined the educational uses or consequences of generative AI for language learning and teaching or provided theoretical perspectives that could explain human capability enhancement through technology. Literature focusing exclusively on technical performance without meaningful educational implications was given limited attention. The analysis also distinguished between research concerned primarily with task completion and research examining learning processes, cognitive engagement, teacher decision-making, learner agency, or pedagogical outcomes. This distinction was necessary because the central concern of the study was to determine whether generative AI contributes to learning by replacing tasks or by expanding human capabilities.

The selected literature was analyzed thematically. The first stage identified the principal functions through which generative AI is being integrated into EFL education, including content generation, feedback, language practice, personalization, instructional design, assessment support, and conversational interaction. The second stage examined whether these functions primarily reflected automation or augmentation and what consequences each orientation had for learners and teachers. The analysis subsequently focused on human agency, cognitive engagement, critical thinking, teacher judgment, learner autonomy, responsibility, and AI literacy. Findings were compared and interpreted to identify conditions under which AI can extend human capabilities and circumstances in which technological assistance may instead displace important learning or pedagogical processes. The synthesis ultimately developed a conceptual understanding of augmentation as an approach that preserves meaningful human participation while strategically using AI to expand educational possibilities.

RESULT AND DISCUSSION

RESULT

The literature demonstrates that generative AI has considerable potential to automate routine activities in EFL education. AI systems can generate exercises, provide grammatical corrections, formulate examples, produce model texts, summarize readings, create discussion prompts, and assist with lesson preparation. These functions can reduce the time required to perform repetitive tasks and increase the availability of educational resources. For teachers, automation can reduce some

routine workload and create more time for individualized interaction and pedagogical planning. For learners, it can provide immediate assistance and reduce delays in accessing language support. However, the literature also indicates that automation is most educationally valuable when it removes unnecessary workload rather than replacing activities that learners need to perform in order to develop language competence.

A second finding concerns the capacity of generative AI to augment language learning opportunities. Learners can use AI to explore multiple ways of expressing an idea, compare vocabulary choices, practice grammar in context, simulate conversations, and receive explanations tailored to particular questions. These interactions can expand the amount and variety of language practice available to students. Instead of waiting for a teacher to identify a linguistic problem, learners can investigate questions independently and receive immediate responses. The literature suggests that such access can increase opportunities for experimentation and self-directed learning. However, augmentation occurs when the interaction contributes to learners' own developing capabilities rather than simply allowing them to obtain completed language products.

The literature further indicates that generative AI can augment feedback processes. Traditional feedback is often limited by teacher workload and the time required to review learner performance. AI can provide rapid preliminary feedback on grammar, vocabulary, sentence structure, organization, and style. This creates opportunities for repeated cycles of drafting and revision. Yet AI feedback is not inherently reliable or pedagogically appropriate. AI systems may provide explanations that are too general, recommend stylistic changes that alter intended meaning, or identify a particular expression as problematic when it is actually acceptable in context. The literature therefore emphasizes the continuing importance of human evaluation. AI can expand the quantity and accessibility of feedback, but learners and teachers remain responsible for determining its relevance and accuracy.

Another finding concerns the augmentation of learner agency. Generative AI can expand the range of choices available to learners by allowing them to determine the type of assistance they seek. Learners can request explanations, examples, practice activities, feedback, or alternative formulations according to their immediate needs. This flexibility can support self-directed learning and encourage learners to become more active in identifying and addressing learning problems. Nevertheless, greater choice does not automatically mean greater agency. Learners may become dependent on AI if they allow the technology to determine what they should learn or repeatedly delegate difficult cognitive activities. Augmentation therefore requires learners to retain control over the purposes and boundaries of AI use.

The findings also reveal the importance of cognitive engagement. Generative AI can potentially reduce cognitive effort by producing answers immediately, but not all reductions in effort are educationally beneficial. Language learning requires opportunities for retrieval, problem solving, experimentation, error recognition, and reflection. If AI performs these processes too frequently, learners may develop habits of technological dependence. Conversely, AI can stimulate deeper engagement when learners use it to compare alternatives, identify contradictions, test hypotheses, and critique generated responses. The distinction between automation and augmentation

therefore depends partly on whether the learner's cognitive role is diminished or strengthened through interaction with AI.

Generative AI also appears to augment teachers' instructional capabilities. Teachers can use AI to generate preliminary instructional materials, create multiple versions of activities, develop examples for different proficiency levels, and explore alternative ways of explaining language concepts. These possibilities can be particularly useful when teachers need to differentiate instruction for heterogeneous groups. AI may also help teachers brainstorm activities or adapt existing materials to different contexts. Nevertheless, the literature consistently suggests that AI-generated materials require human review. Teachers must evaluate accuracy, relevance, cultural appropriateness, linguistic quality, and alignment with curricular objectives. AI can therefore increase teachers' productive capacity, but professional judgment remains indispensable.

Another important finding concerns personalization. Generative AI can respond to individual learner requests and potentially provide support that is difficult to deliver consistently in large classes. Students can ask for simpler explanations, additional practice, alternative examples, or more advanced challenges. This flexibility can support differentiated learning and potentially increase learner engagement. However, the literature indicates that personalization should not be interpreted simply as allowing AI to determine individualized learning pathways. Genuine learner-centered personalization requires students to understand their learning needs and participate in determining appropriate learning goals. AI can provide options, but learners and teachers must determine which options are educationally meaningful.

The literature also highlights the potential of AI to augment critical thinking when it is deliberately incorporated into learning tasks. Rather than using AI only to obtain answers, learners can be asked to evaluate AI-generated explanations, identify factual or linguistic inaccuracies, compare multiple responses, and justify why one alternative is more appropriate than another. Such activities transform AI into an object of critical analysis. They also create opportunities for learners to develop epistemic awareness by recognizing that technologically generated information requires evaluation. In this context, the limitations of AI can themselves become pedagogical resources.

A further finding concerns the development of AI literacy. The movement from automation to augmentation requires users to understand the capabilities and limitations of generative AI. Learners need to recognize that fluent responses may still contain inaccuracies and that AI-generated language may not always reflect appropriate context or communicative intent. Teachers need to understand how AI can support instruction while also recognizing potential biases, inaccuracies, and pedagogical limitations. AI literacy therefore extends beyond operational competence. It involves the ability to make informed decisions about when and how AI should be used, evaluated, modified, or rejected.

The findings finally indicate that the most sustainable applications of generative AI are those that complement rather than replace human interaction. EFL learning is fundamentally communicative and social. Teachers and peers provide forms of interaction that involve emotional support, cultural interpretation, interpersonal negotiation, and contextual understanding. Generative AI can provide

additional practice and support, but it cannot fully reproduce the complexity of human relationships. The literature consequently supports an augmentation-oriented model in which AI expands the learning environment while human interaction remains central to language development.

DISCUSSION

The findings suggest that the distinction between automation and augmentation should become central to discussions of generative AI in EFL education. Automation is attractive because it offers measurable efficiency. Tasks can be completed faster, materials can be generated more rapidly, and feedback can be produced with less immediate human labor. Yet education is not simply a collection of tasks that need to be completed as efficiently as possible. Some tasks have value precisely because learners engage in the process of performing them. The educational question must therefore move beyond whether AI can perform an activity toward whether transferring that activity to AI supports the intended learning outcome. This distinction provides a more meaningful basis for evaluating the role of generative AI (Hamsiah et al., 2022).

From this perspective, not all automation is problematic. Automating repetitive activities that do not themselves constitute important learning objectives may free teachers and learners to devote more attention to higher-order educational activities. For example, AI-assisted generation of preliminary practice materials may reduce teacher preparation time, allowing teachers to focus more on classroom interaction and individualized support. Similarly, AI-assisted identification of possible grammatical issues may allow learners to focus more attention on meaning and organization. Automation becomes problematic when it replaces the cognitive activity that the learner is expected to develop (Ökmen et al., 2020; Prokopiv & Stynska, 2023; Syukkur & Fauzan, 2021). The critical issue is therefore not automation itself but the educational significance of the task being automated.

The concept of augmentation provides a stronger framework for understanding this distinction because it emphasizes the expansion of human capability. In EFL learning, augmentation can occur when AI provides learners with additional linguistic possibilities that they can examine and evaluate. A learner may ask AI to provide several ways of expressing an idea and then compare the alternatives in terms of meaning, formality, and communicative purpose. In such a situation, AI does not simply produce language for the learner (Dörnyei & Ushioda, 2021). It expands the learner's linguistic field of possibilities and creates material for analysis. The learning value comes from the learner's subsequent interpretation and decision-making.

This perspective is particularly important for writing instruction. Generative AI can produce highly polished texts, but simply submitting AI-generated writing provides limited evidence of language development. An augmentation-oriented writing pedagogy would instead use AI to support brainstorming, alternative formulations, feedback, and revision while requiring learners to remain responsible for the argument, organization, meaning, and final decisions. Students could compare their own writing with AI-generated alternatives, identify differences, evaluate the strengths and weaknesses of each version, and explain why particular changes were

accepted or rejected (Tatto, 2021). Through this process, AI becomes a resource for developing writing awareness rather than a replacement for writing itself.

The same principle applies to feedback. Generative AI can increase the availability of feedback, but the quantity of feedback does not necessarily determine its educational value. Effective feedback requires interpretation and action. If students receive dozens of AI-generated corrections and simply implement them, the feedback process may become mechanical. If students examine why a particular correction was suggested, determine whether it is accurate, and consider how it affects meaning or style, the same technological feedback can become a learning opportunity. Augmentation therefore depends on transforming AI-generated information into human understanding.

The concept of augmentation also provides a useful way to reconsider teacher workload. One of the strongest arguments for generative AI concerns its ability to automate routine preparation and feedback activities. Teachers often spend substantial time producing exercises, adapting materials, and responding to repetitive language errors. If AI can assist with these activities, teachers may gain additional time for tasks requiring professional judgment and interpersonal interaction. However, this benefit depends on teachers treating AI output as preliminary material rather than finished pedagogical content. Teachers remain responsible for checking accuracy, adapting materials to learners, and ensuring alignment with instructional objectives (Adhikari & Shrestha, 2023; Arifin et al., 2022; Budiharso & Tarman, 2020). The technology augments professional capacity when it increases the teacher's ability to perform these higher-level functions.

Another important implication concerns the preservation of learner agency. Automation can encourage learners to become consumers of completed products, whereas augmentation encourages them to become decision-makers. This distinction is especially important because generative AI can produce convincing answers even when learners have not fully understood the underlying problem (Al Ayyubi, Prayetno, et al., 2025; Al Ayyubi, Rahmawati, et al., 2025; Al Ayyubi, Rohmatulloh, et al., 2024; Al Ayyubi, Widiani, et al., 2024; Nuraini et al., 2024). An augmentation-oriented learning environment should therefore require learners to interact critically with AI output. They might be asked to identify errors, compare alternatives, explain decisions, or improve AI-generated responses. Such activities ensure that learners remain intellectually engaged rather than merely technologically assisted.

The relationship between augmentation and critical thinking is particularly significant. Generative AI can be viewed as both a potential threat to and a resource for critical thinking. When learners accept AI responses without examination, their opportunities to reason independently may decrease. When learners are explicitly asked to challenge AI, however, the technology creates an additional object of analysis. Students can examine whether an explanation is accurate, whether an argument is logically coherent, whether a word choice is appropriate, or whether a generated interpretation adequately reflects a text. In this way, AI can become a catalyst for critical thinking precisely because its output is not assumed to be infallible.

This approach also has implications for AI literacy. A narrow understanding of AI literacy focuses on knowing how to operate technological tools. A broader educational understanding includes the ability to evaluate output, recognize limitations, manage dependence, protect academic responsibility, and determine

when AI assistance is appropriate. Such literacy is essential for augmentation because users cannot meaningfully control a technology they do not understand. EFL learners therefore need to develop both language competence and technological judgment. They need to know not only how to ask AI for assistance but also how to determine whether the assistance actually contributes to their learning.

The movement from automation to augmentation also requires a reconsideration of educational success. If institutions evaluate AI integration primarily through time saved, number of tasks completed, or volume of generated materials, automation will naturally become the dominant orientation. A more educationally meaningful evaluation should examine whether AI contributes to deeper learning, stronger learner agency, improved teacher effectiveness, greater opportunities for meaningful practice, and more sophisticated critical engagement. This shift changes the criteria through which educational technology is judged. Efficiency remains relevant, but it becomes a means rather than the ultimate educational objective.

There are also important implications for assessment. In AI-mediated environments, final products may increasingly reflect technological assistance. Assessment should therefore consider process evidence, learner explanations, revision decisions, reflection, and the ability to evaluate AI output. This does not mean that final language performance becomes irrelevant. Rather, the product should be interpreted alongside evidence demonstrating how the learner developed and evaluated it. Such an approach is consistent with augmentation because it values the human cognitive contribution rather than treating technological assistance as equivalent to learning.

The distinction between automation and augmentation can also contribute to a more balanced debate about the future of teachers. Concerns that AI will replace language teachers often arise from the assumption that teaching consists primarily of information delivery and task completion. However, effective language teaching involves much more than these functions. Teachers interpret learner needs, establish relationships, facilitate communication, provide contextualized feedback, motivate students, manage classroom interaction, and make pedagogical judgments. Generative AI may automate or augment some peripheral activities, but these human dimensions remain central. The appropriate response to AI is therefore not necessarily to defend every existing teacher task but to reconsider which aspects of teaching can be technologically supported and which require distinctively human expertise.

The broader theoretical contribution of this study is the proposition that generative AI should be evaluated according to its relationship with human capability. Automation emphasizes what technology can do instead of humans. Augmentation emphasizes what humans can accomplish more effectively, creatively, critically, or independently with appropriate technological support. In EFL education, this distinction is especially important because language learning is fundamentally concerned with developing human communicative capability. Technology becomes educationally valuable when it contributes to that development rather than merely producing language on learners' behalf.

CONCLUSION

Generative AI is creating a significant opportunity to reconsider how technology should contribute to EFL education. Its capacity to automate language-related and instructional tasks can increase efficiency, expand access to resources, and reduce routine workloads. However, automation alone is insufficient as a framework for understanding educational value. Some of the activities that AI can perform most efficiently are precisely the activities through which learners develop language knowledge, critical thinking, problem-solving abilities, and communicative competence. Delegating these activities without pedagogical consideration may therefore improve immediate performance while weakening long-term learning. The study argues that an augmentation-oriented perspective provides a more productive framework for integrating generative AI into EFL education. Augmentation emphasizes the expansion of human capabilities rather than the replacement of human activity. For learners, this means using AI to explore language, obtain feedback, practice communication, compare alternatives, and develop greater awareness of their own learning while retaining responsibility for decisions and outcomes. For teachers, it means using AI to expand instructional capacity, generate preliminary resources, differentiate learning materials, and reduce repetitive workload while maintaining professional judgment and contextual responsibility.

The distinction between automation and augmentation is particularly important for learner agency. AI can provide abundant assistance, but meaningful learning requires students to remain active decision-makers. Learners need to determine when AI should be used, what assistance is appropriate, how generated responses should be evaluated, and which cognitive activities should remain their own. Similarly, teachers need to determine how AI-generated resources align with pedagogical objectives and learner needs. The central issue is therefore not the amount of AI involvement but the quality of human involvement that remains within the learning process. The study further demonstrates that generative AI can contribute positively to critical thinking when learners are encouraged to question, evaluate, compare, and revise AI-generated output. Rather than treating AI as an unquestionable authority, educators can transform its limitations into opportunities for critical inquiry. Students can examine inaccurate explanations, compare alternative responses, evaluate language choices, and justify their own decisions. Such practices position AI not simply as a provider of answers but as a resource that can stimulate deeper intellectual engagement.

The broader implication is that the future of EFL education should not be defined by how many educational tasks can be automated. It should be defined by how effectively technology can augment the capacities that education seeks to develop. Language learning ultimately aims to cultivate individuals who can communicate, reason, interpret, create, collaborate, and learn independently. Generative AI should therefore be integrated in ways that strengthen these capabilities rather than replace them. The most valuable AI-supported learning environment is not one in which humans do less, but one in which technology enables humans to learn, teach, think, and communicate more effectively. As a library research study, this article is limited by the scope and diversity of existing scholarship and by the rapidly evolving capabilities of generative AI. Future empirical research should examine how different forms of AI use influence language proficiency, learner agency,

critical thinking, creativity, teacher workload, and long-term learning outcomes. Longitudinal research is particularly needed to determine whether AI-supported augmentation produces sustainable improvements in learner capability or gradually encourages technological dependency. Future studies should also investigate which educational tasks are most appropriately automated and which should remain primarily human-centered. Ultimately, the challenge for EFL education is not to resist technological development or to automate education as extensively as possible, but to develop a principled approach in which generative AI serves as a means of expanding human educational capability while preserving human judgment, agency, creativity, and responsibility at the center of learning

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