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EXPLORING THE ROLE OF AI TOOLS IN SUPPORTING SELF-REGULATED LEARNING AMONG HIGH-USAGE EFL STUDENTS

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abstract

Artificial Intelligence (AI) tools have increasingly become part of English as a Foreign Language (EFL) students' learning practices, offering immediate support for understanding materials, completing academic tasks, and managing independent study. However, the lived experiences of high-usage EFL students in using AI tools to support self-regulated learning remain underexplored, particularly in Indonesian Islamic university contexts. This study explored the roles of AI tools in supporting self-regulated learning, students' experiences and perceptions, and the problems and solutions related to AI-accelerated learning in EFL education. Using a qualitative transcendental phenomenological design, data were collected from five high-usage EFL students at UIN Siber Syekh Nurjati Cirebon through semi-structured in-depth interviews and digital artifacts. The data were analyzed using Moustakas' phenomenological analysis. The findings showed that AI tools helped students understand English materials, plan learning strategies, monitor progress, evaluate learning outcomes, develop language skills, and maintain motivation. Students perceived AI as a flexible learning partner, yet they also faced inaccurate responses, overdependence, reduced critical thinking, and difficulties in using AI feedback. The study concludes that AI tools can support self-regulated learning when used responsibly as learning assistance rather than as a replacement for students' personal effort.

INTRODUCTION

In recent years, Artificial Intelligence (AI) has gained increasing attention in education, particularly in English as a Foreign Language (EFL) learning in higher education contexts. The rapid development of AI-based tools, such as ChatGPT, Grammarly, translation applications, automated writing assistants, chatbots, and adaptive learning platforms, has reshaped how students access information, understand learning materials, complete academic tasks, revise written work, and solve language-related problems. This development is driven by technological advancement, the increasing accessibility of digital learning tools, and the growing demand for independent learning in university settings. Wei (2023) stated that AI has started to transform students' learning behaviors and engagement patterns across educational settings. Recent reviews also show that AI technologies in EFL education are increasingly associated with language development, learning support, learner engagement, and critical thinking, although implementation still depends on methodological, instructional, and technological conditions (Qin & Chuaychoowong, 2025; Toscu, 2025).

The role of AI tools is particularly relevant in EFL learning because English is not commonly used as the main language of daily communication in many Indonesian contexts. As a result,

EFL students often need additional support to understand academic texts, organize ideas, correct grammatical errors, and practice language skills. Alhalangy and Abdalgane (2023) found that AI positively affects English language teaching and learning, although its implementation requires ethical responsibility from both teachers and students. Similarly, Yang (2024) reported that AI-assisted learning can support students' English learning motivation and achievement. Zhi (2024) further showed that students' attitudes toward AI are related to classroom interaction and willingness to communicate. These findings indicate that AI tools can extend students' learning opportunities beyond formal classroom interaction.

In EFL learning, AI tools are commonly used for writing, reading, translation, grammar checking, idea generation, and speaking practice. Studies on AI-assisted writing have shown that students perceive AI tools as useful for grammar checking, feedback, paraphrasing, revision, and academic writing support (Amani & Bisriyah, 2025; Al-Sofi, 2024; Amoush & Alhosban, 2025; Parra Nunez & Castrillo de Larreta-Azelain, 2025). Other studies also indicate that ChatGPT and generative AI may help EFL learners develop writing proficiency, organize ideas, and improve confidence, while also raising concerns about academic integrity and excessive dependence (Khan et al., 2025; Najmiah & Al-Anbari, 2025; Tanharat & Phootirat, 2025). Arif and Naeem (2025) warned that generative AI can influence learner autonomy and critical thinking in writing classrooms, which means that AI use should be examined not only from its benefits but also from its potential effects on students' learning responsibility.

The increasing use of AI tools in EFL learning is closely related to self-regulated learning (SRL). Zimmerman (2010) explains that self-regulated learning involves students' active control over cognition, motivation, behavior, and learning strategies to achieve academic goals. Panadero (2017) also emphasized that SRL involves goal setting, strategic planning, self-monitoring, and self-evaluation. AI tools may support these processes because they provide immediate feedback, personalized guidance, and flexible access to learning resources. Afzaal et al. (2021) showed that explainable AI can support students' self-regulation through data-driven feedback and intelligent action recommendations. Jin et al. (2023) also reported that AI applications can support students' self-regulated learning in online learning environments, and Ng et al. (2024) demonstrated that ChatGPT can support students' self-regulated learning when it is used as a guided learning resource. In a similar direction, Lai (2024) argued that generative AI chatbots require students to adapt their self-regulated learning strategies, while Ozturan (2025) emphasized that generative AI and self-regulated language learning should be understood together because AI changes how learners plan, monitor, and evaluate their learning.

AI-supported SRL has also been discussed in relation to specific language skills. Pan et al. (2024) found that AI chatbots can support EFL students' self-regulated reading, while Rad (2025) demonstrated that AI intervention can reinforce L2 reading comprehension and engagement in self-regulated learning. Sagita et al. (2025) also highlighted the role of generative AI companions in promoting reading engagement and self-regulation in EFL contexts. Huynh (2024) found that AI-based tools may contribute to EFL learners' autonomy and self-regulation because students can access learning assistance independently. Tin (2025) similarly showed that AI tools may influence EFL learner autonomy, especially when students use them to support independent learning rather than to replace their own effort. These studies suggest that AI can support SRL across language learning activities, but the quality of support depends on how students use and regulate the tools.

In the Indonesian context, AI use among university students has also become an important issue. Many students use AI tools to translate texts, revise assignments, understand theories, generate examples, summarize materials, and check language accuracy. Amadi and Hikmah

(2025) found that Indonesian students appreciated the usefulness of AI tools, but still needed digital literacy to use AI responsibly and avoid misinformation. Supriyono et al. (2024) also indicated that students in Islamic higher education may show distinctive attitudes toward technology because of their institutional context. This context is important because AI use is not only a matter of technological access, but also relates to responsibility, integrity, personal effort, and academic ethics. Islamy et al. (2025) further argued that AI can support planning, monitoring, and reflective learning, but uncritical AI use may weaken epistemic agency and foster cognitive dependency.

Previous studies have also examined students' perceptions and acceptance of AI-powered language learning technologies. Benek (2025) reported that EFL learners generally perceived AI-powered technologies as beneficial and personalized, although teachers still faced ethical, technological, and pedagogical challenges. Alghasab (2025) also investigated EFL students' ChatGPT usage through the Technology Acceptance Model and showed that students' attitudes toward AI are shaped by usefulness, ease of use, and acceptance. Chen and Alibakhshi (2025) found that AI-powered applications can affect English language learners' cognitive, metacognitive, and resource management strategies, as well as language achievement. These findings are relevant to SRL because they show that AI use influences not only learning outcomes but also students' strategies, resource management, and learning decisions.

Despite the growing number of studies on AI in education and EFL learning, the existing literature remains inconclusive regarding how students personally experience AI tools in relation to self-regulated learning. Many previous studies have focused on general perceptions, learning outcomes, experimental effects, or systematic reviews. Mohebbi (2025) emphasized that AI-driven language learning can enhance engagement, feedback, and personalized learning, but also noted concerns about overreliance and equitable access. Lai et al. (2022) showed that mobile technology can support self-directed language learning, but such studies do not fully explain how high-usage AI learners experience the continuous presence of AI in their daily learning routines. Therefore, a qualitative investigation is needed to understand the emotional, cognitive, practical, and reflective dimensions of students' AI-supported SRL.

Moreover, most prior research has predominantly focused on general student populations, leaving high-usage EFL students insufficiently explored. High-usage students are learners who frequently use AI tools and integrate them into different learning activities. Carter et al. (2020) noted that heavy users of digital tools may demonstrate more complex forms of self-regulated learning because technology becomes part of their learning routines. In AI-assisted EFL learning, high-usage students may use AI not only for grammar checking or translation, but also for planning assignments, generating ideas, solving language problems, monitoring progress, evaluating learning outcomes, and maintaining motivation. Their intensive interaction with AI can reveal more detailed learning patterns than those of casual users, while also exposing risks such as overdependence, reduced critical thinking, inaccurate responses, and ethical concerns.

To address these gaps, the present study aims to investigate the role of AI tools in supporting self-regulated learning among high-usage EFL students by employing a transcendental phenomenological approach. Phenomenology is appropriate because this study focuses on students' lived experiences and the meanings they attach to AI use in their learning process. Creswell and Poth (2018) stated that phenomenology is useful when researchers aim to explore deep insights into human experiences, especially those involving personal interpretation and internal processes. Moustakas (1994) also emphasized that phenomenological research seeks to describe the essence of participants' experiences with a particular phenomenon. In this study, the phenomenon is the use of AI tools by high-usage EFL students to support self-regulated learning.

Specifically, this study examines three main aspects within the context of UIN Siber Syekh Nurjati Cirebon. First, it investigates the roles of AI tools in enhancing students' self-regulated learning in EFL education. Second, it explores students' experiences and perceptions of using AI tools to support their self-regulated learning. Third, it identifies the problems students face due to AI-accelerated learning and the solutions proposed to address these challenges. The findings are expected to contribute to the existing body of knowledge by offering deeper qualitative insights into AI-supported SRL from the perspective of high-usage EFL students. Practically, this study may provide useful implications for EFL students, lecturers, and institutions in promoting responsible, reflective, and independent use of AI tools.

METHOD

This study employed a qualitative method with a transcendental phenomenological design. A qualitative method was used because this study aimed to explore the lived experiences, meanings, perceptions, and challenges of high-usage EFL students in using Artificial Intelligence (AI) tools to support self-regulated learning. Creswell and Poth (2018) state that qualitative research is appropriate for understanding how individuals interpret and give meaning to their experiences in a particular context. In this study, the context was EFL learning at UIN Siber Syekh Nurjati Cirebon, while the phenomenon was the use of AI tools to support students' self-regulated learning.

The participants of this study were five undergraduate EFL students at UIN Siber Syekh Nurjati Cirebon who were identified as high-usage AI learners. They were selected using purposive sampling because they had direct experience in using AI tools for English learning and could provide rich information about the phenomenon being investigated (Patton, 2015; Palinkas et al., 2015). The participant selection was supported by an initial screening questionnaire, which functioned only as a preliminary tool to identify students who frequently used AI tools, not as the main research instrument. The selected participants used AI tools for various learning purposes, such as understanding English materials, translating texts, checking grammar, generating ideas, revising assignments, practicing language skills, and managing study routines.

The main instrument of this study was a semi-structured in-depth interview guideline. The guideline was designed based on the research questions and the concepts of AI-assisted learning and self-regulated learning. The interview questions explored the roles of AI tools in supporting students' learning, students' experiences and perceptions of using AI tools, and the problems and solutions related to AI-accelerated learning. The questions also covered aspects of self-regulated learning, such as planning, monitoring, evaluation, reflection, motivation, learning strategies, and autonomy (Zimmerman, 2010; Panadero, 2017). Digital artifacts were used as supporting data to complement the interview findings. Digital artifacts refer to digital traces or products generated through human activities and interactions. In qualitative research, digital materials may be examined to understand patterns of behavior, meaning-making, and interaction (Paulus et al., 2017; Lindberg, 2023).

The collected data were analyzed using Moustakas' transcendental phenomenological analysis. The analysis began with bracketing, in which the researcher attempted to set aside personal assumptions and judgments about AI use in EFL learning. The next stage was horizontalization, where significant statements from the interview data were identified. After that, the researcher conducted reduction and elimination to remove overlapping or irrelevant statements. The remaining statements were then coded and grouped into meaning units. These meaning units were organized into themes based on the research questions. The themes

represented the roles of AI tools, students' experiences and perceptions, and the problems and solutions in AI-accelerated EFL learning.

After the themes were developed, the researcher constructed textural and structural descriptions. The textural description explained what the participants experienced when using AI tools in EFL learning, while the structural description explained how they experienced the phenomenon in their learning context. Finally, the researcher synthesized the meanings and essences of the participants' experiences to describe how AI tools supported self-regulated learning among high-usage EFL students. This process followed Moustakas' (1994) phenomenological analysis, which focuses on identifying the essence of lived experiences through significant statements, meanings, themes, and descriptions.

FINDINGS

This section presents the findings from semi-structured in-depth interviews with five high-usage EFL students at UIN Siber Syekh Nurjati Cirebon. The findings are organized based on the three research questions: the roles of AI tools in supporting self-regulated learning, students' experiences and perceptions of using AI tools, and the problems and solutions related to AI-accelerated learning in EFL education. Digital artifacts was used as supporting data to confirm the participant selection process and the interview implementation.

Table 1. Summary of the Main Findings

Research Focus	Main Themes	Evidence from the Data
Roles of AI tools in supporting SRL	Language learning support	AI helped students understand English materials, check grammar, find vocabulary meanings, improve writing, and support pronunciation practice.
Roles of AI tools in supporting SRL	Independent learning support	AI allowed students to ask questions, study independently, and continue learning outside classroom instruction.
Roles of AI tools in supporting SRL	Planning and strategy support	Some students used AI to organize ideas, set learning targets, make schedules, and decide which materials needed more attention.
Roles of AI tools in supporting SRL	Monitoring and evaluation support	Students used AI to check grammar, evaluate sentences, identify mistakes, and recognize weaknesses in their learning outcomes.
Roles of AI tools in supporting SRL	Practice and skill development support	AI was used for writing improvement, speaking practice, translation, summarizing, presentation preparation, and academic writing.
Roles of AI tools in supporting SRL	Motivational support	AI helped students feel more confident because they could practice English privately without fear of being judged.
Students' experiences and perceptions	AI as a flexible learning resource	Students explored different AI tools for grammar checking, translation, speaking practice, discussion, idea generation, and academic tasks.
Students' experiences and perceptions	AI as thinking and problem-solving support	Students used AI to find alternatives, understand difficult materials, choose topics, and improve writing.
Students' experiences and perceptions	AI as part of daily learning routines	AI was frequently used for assignments, grammar checking, understanding English content, translation, and academic materials.
Students' experiences and perceptions	Responsible and ethical AI use	Students perceived that AI should not be used for copying answers, but as a tool to help

		them understand, revise, and improve their work.
Students' experiences and perceptions	AI as a learning partner	Students viewed AI as a learning partner, discussion partner, or support tool, but not as a replacement for personal effort.
Problems and solutions	Inaccurate and general AI responses	Students found that AI sometimes gave inaccurate, general, inconsistent, or unsuitable answers.
Problems and solutions	Overdependence and academic integrity issues	Students were aware that frequent AI use could lead to dependency, laziness, and the risk of copying AI-generated answers.
Problems and solutions	Difficulties in using AI feedback	Students found that AI feedback was sometimes too formal, too long, too general, or difficult to apply.
Problems and solutions	Reduced independent thinking	Some students felt that AI could weaken their thinking effort if they used it too often without reflection.
Problems and solutions	Responsible strategies	Students proposed rechecking AI answers, comparing sources, consulting lecturers or friends, practicing independently, thinking first, and using AI only as support.

The Roles of AI Tools in Supporting Self-Regulated Learning

The findings show that AI tools played several roles in supporting students' self-regulated learning in EFL education. First, AI functioned as language learning support. The participants used AI to understand English materials, check grammar, find vocabulary meanings, improve writing, generate examples, and support pronunciation practice. This shows that AI was used not only for completing assignments, but also for clarifying language problems and improving students' understanding of English.

Second, AI tools supported independent learning. The participants explained that AI helped them continue learning without always depending on lecturers, friends, or classroom instruction. AI allowed them to ask questions, obtain explanations, and solve learning difficulties at any time. This finding indicates that AI provided flexible learning support outside formal classroom settings.

Third, AI tools supported planning and learning strategies, although this role was not experienced equally by all participants. Some students used AI to organize ideas, set learning targets, make schedules, choose topics, and decide which materials needed more attention. However, other students used AI more practically for translation, writing checks, or finding ideas. This shows that AI could support planning, but only when students used it consciously for learning management.

Fourth, AI tools played a strong role in monitoring and evaluation. Students used AI to check grammar, evaluate sentences, identify mistakes, recognize weaknesses, and revise their learning outcomes. Through this process, AI helped students become more aware of their progress and areas that needed improvement.

Fifth, AI supported practice and skill development. The participants used AI for writing improvement, speaking practice, translation, summarizing, presentation preparation, micro-teaching, proposal writing, and conversation practice. This shows that AI was used across different English skills and academic tasks.

Sixth, AI tools supported motivation and confidence. The participants felt more confident because AI allowed them to practice English privately without being judged or embarrassed.

This condition helped them become more willing to try, make mistakes, and improve their English learning.

Students' Experiences and Perceptions of Using AI Tools

The findings also show that students experienced AI tools as flexible learning resources. They explored several AI tools, such as chatbots, grammar checkers, translation tools, and AI speaking applications, based on different learning needs. They did not use AI randomly; instead, they selected tools according to their functions, such as grammar checking, translation, speaking practice, idea generation, discussion, and academic writing.

Students also experienced AI as support for thinking, decision-making, and problem-solving. They used AI to find alternative answers, understand difficult materials, choose topics, improve writing, and see problems from different perspectives. This shows that AI was not only used to produce instant answers, but also to support students' thinking process when they used it actively.

AI had also become part of students' daily learning routines. The participants frequently used AI for grammar checking, understanding English content, completing assignments, translating texts, reading academic materials, and supporting independent learning. However, the findings also show that frequent AI use could create dependency if students did not control how they used it.

In terms of perception, students viewed AI as a tool that should be used responsibly and ethically. They stated that AI should not be used to copy assignments directly. Instead, AI should be used to help students understand materials, recheck information, revise answers, and improve their learning. Students also perceived AI as a learning partner, discussion partner, or support tool. However, they emphasized that AI should not replace their own thinking, effort, and learning responsibility.

Problems and Solutions in AI-Accelerated Learning

The findings reveal several problems related to AI-accelerated learning. The first problem was inaccurate, general, and inconsistent AI responses. Students found that AI sometimes produced answers that were not fully correct, too general, or different from lecturers' instructions. This required students to recheck AI-generated information before using it for academic purposes.

The second problem was overdependence and academic integrity. Students realized that AI could make them too dependent because it provides fast and practical answers. This situation could lead students to copy AI-generated content without understanding, revising, or processing it. The students were aware that this could affect their learning responsibility and academic honesty.

The third problem was difficulty in using AI feedback and recommendations. Although AI could provide quick feedback, students found that the feedback was sometimes too formal, too long, too general, confusing, or unsuitable for their learning needs. This shows that AI feedback did not automatically improve learning unless students were able to interpret and adjust it.

The fourth problem was reduced independent thinking and cognitive effort. Some students felt that frequent AI use could make them less active in thinking, less confident without technology, or less motivated to solve problems independently. This problem shows that AI can support learning, but it can also weaken students' cognitive effort when used passively.

To overcome these problems, students proposed several responsible strategies. They rechecked AI answers, compared AI responses with other sources, asked lecturers or friends,

practiced independently, thought first before using AI, and treated AI as learning assistance rather than a replacement for personal effort. These solutions show that students did not reject AI. Instead, they tried to regulate how they used AI so that it could support their learning without reducing their independence.

DISCUSSION

The findings of this study show that AI tools played multiple roles in supporting high-usage EFL students' self-regulated learning. AI functioned as language learning support, independent learning support, planning and strategy support, monitoring and evaluation support, practice and skill development support, and motivational support. These roles are closely related to Zimmerman (2010), who explains that self-regulated learners actively control their cognition, motivation, behavior, and learning strategies. The findings also support Panadero's (2017) explanation that self-regulated learning involves goal setting, planning, self-monitoring, and self-evaluation. In this study, AI tools helped students perform these processes by providing immediate explanations, feedback, corrections, and learning suggestions.

The strongest role of AI appeared in language learning support, monitoring, and evaluation. Students used AI to check grammar, improve writing, understand English materials, identify mistakes, and revise their work. This finding is consistent with Yang (2024), who reported that AI-assisted learning can support English learning motivation and achievement. It also supports Huynh (2024), Pan et al. (2024), Rad (2025), and Sagita et al. (2025), who found that AI-based tools can support EFL learners' autonomy, reading engagement, and self-regulated learning. In the present study, AI helped students continue learning outside the classroom and reduced their dependence on immediate teacher or peer assistance.

The findings also support recent discussions that AI can provide personalized feedback, adaptive support, and cognitive scaffolding for language learning. Afzaal et al. (2021) emphasized that AI can support self-regulation through feedback and intelligent action recommendations, while Jin et al. (2023) showed that AI applications can support students' self-regulated learning in online contexts. Chen and Alibakhshi (2025) also found that AI-powered applications can influence cognitive, metacognitive, and resource management strategies. In this study, these forms of support appeared when students used AI to plan learning activities, monitor their progress, revise their writing, and evaluate their learning outcomes.

However, the findings also show that AI did not support all SRL processes equally. Some students used AI for planning, target setting, and learning management, while others used AI mainly for practical tasks such as translation, grammar checking, and finding ideas. This indicates that frequent AI use does not automatically mean strong self-regulated learning. Lai (2024) argued that generative AI requires learners to adapt their SRL strategies, and Ozturan (2025) emphasized that self-regulated language learning with generative AI depends on how learners manage the tool. Therefore, AI becomes supportive of SRL only when students use it consciously, critically, and reflectively.

The students' experiences also show that AI had become part of their daily EFL learning routines. They used various AI tools for grammar checking, translation, speaking practice, idea generation, academic writing, and understanding course materials. This finding is in line with Amani and Bisriyah (2025), who found that EFL students perceived AI-assisted writing tools as useful for grammar checking, feedback, paraphrasing, and translation. It also supports Al-Sofi (2024), Amoush and Alhosban (2025), and Parra Nunez and Castrillo de Larreta-Azelain (2025), who reported that AI writing tools can support revision, feedback, and writing development. However, the present study adds that high-usage EFL students did not only use

AI for writing support, but also for broader learning purposes, including speaking practice, presentation preparation, problem-solving, and independent learning.

The finding that students perceived AI as a learning partner rather than a replacement for personal effort is also consistent with studies on students' perceptions and acceptance of AI. Benek (2025) found that EFL learners generally perceived AI-powered technologies as useful and personalized, while Alghasab (2025) showed that students' ChatGPT usage and attitudes were shaped by perceived usefulness and acceptance. Similarly, Tin (2025) indicated that AI tools may support EFL learner autonomy when students use them to strengthen independent learning. In the present study, students valued AI because it was flexible, accessible, and helpful when they faced learning difficulties, but they also emphasized the need for self-control, ethical use, and personal responsibility.

The problems found in this study confirm that AI-accelerated learning creates both opportunities and risks. Students faced inaccurate responses, overdependence, academic integrity issues, difficulties in using AI feedback, reduced discipline, and reduced independent thinking. Islamy et al. (2025) explain that AI can support planning, monitoring, and reflective learning, but uncritical AI use may weaken students' epistemic agency and foster cognitive dependency. This is also consistent with Arif and Naeem (2025), who warned that generative AI can affect autonomy and critical thinking, and with Khan et al. (2025), who reported that ChatGPT use in EFL writing may create both support and concern. Thus, the speed and accessibility of AI can be useful, but they may also encourage shallow learning if students use AI only to obtain quick answers.

The issue of overdependence is particularly important in EFL learning because language development requires repeated practice, active thinking, and personal effort. If students rely too heavily on AI-generated content, they may reduce their own opportunity to practice writing, reading, speaking, and problem-solving. Studies on EFL writing have similarly shown that AI tools can support writing proficiency, but may also raise concerns about originality, critical engagement, and academic integrity (Najmiah & Al-Anbari, 2025; Tanharat & Phootirat, 2025). This finding suggests that AI-supported learning should not be understood simply as technology use, but as a process of regulating both learning behavior and technology behavior.

The solutions proposed by students show that responsible AI use is a form of self-regulation. The students rechecked AI answers, compared sources, consulted lecturers or friends, practiced independently, thought first before using AI, and treated AI as a support tool. These strategies are in line with Mohebbi (2025), who highlighted that AI tools can promote language learning and self-regulation when learners use them with caution. They also support Lai et al. (2022), who emphasized that technology can support self-directed language learning when students actively manage their learning behavior. From an educational perspective, this finding suggests that lecturers should not only allow or prohibit AI use, but also guide students to use AI critically, ethically, and reflectively.

The Indonesian Islamic university context also strengthens the contribution of this study. Amadi and Hikmah (2025) showed that Indonesian students appreciate AI usefulness but still need digital literacy, while Supriyono et al. (2024) highlighted the relevance of technology-related learning behaviors in Islamic higher education. In this study, students' concern about responsibility, ethics, and personal effort reflects the importance of institutional values in shaping AI use. Therefore, AI integration in this context should include guidance on academic integrity, digital literacy, and responsible learning practices.

The novelty of this study lies in its focus on high-usage EFL students' lived experiences in an Indonesian Islamic university context. Previous reviews and empirical studies have shown the potential of AI in EFL education, but many of them focus on broad outcomes, perceptions,

or skill-specific interventions (Qin & Chuaychoowong, 2025; Toscu, 2025; Wei, 2023; Zhi, 2024). This study extends those discussions by showing how high-usage students experience AI in a complex way. AI makes learning faster, easier, and more flexible, but it also creates risks of dependency, shallow thinking, and authenticity problems. Therefore, frequent AI use is not automatically positive or negative; it becomes meaningful for learning when students are able to regulate their use of AI responsibly.

CONCLUSION

This study provides qualitative evidence that AI tools play a meaningful role in supporting high-usage EFL students' self-regulated learning. Students used AI tools to understand English materials, organize ideas, check grammar, revise academic writing, practice language skills, monitor learning progress, and evaluate their learning outcomes. These findings indicate that AI tools can support students' learning regulation by offering flexible assistance, immediate feedback, and accessible learning support beyond classroom instruction.

The findings suggest that AI-assisted learning is a useful approach to support EFL students' autonomy and self-regulated learning when it is used critically and responsibly. AI tools helped students become more confident, independent, and strategic in managing their English learning. However, the study also shows that AI use may create challenges, such as inaccurate responses, overdependence, reduced critical thinking, and difficulties in interpreting AI feedback. Therefore, AI should not be positioned as a replacement for students' personal effort, but as a learning partner that supports planning, monitoring, evaluation, and reflection. Theoretically, the findings strengthen the view that self-regulated learning in digital contexts is shaped not only by students' internal motivation and strategies, but also by how they manage and regulate their interaction with technology.

However, this study has several limitations. The participants were limited to five high-usage EFL students from one Indonesian Islamic university, which may limit the generalizability of the findings. In addition, the study relied mainly on interview data and supporting digital artifacts, so students' actual AI-use behavior was not directly observed. Future research is recommended to involve broader and more diverse participants, compare high-usage and low-usage AI learners, and include classroom observation or AI-use records to obtain richer data. Further studies may also investigate how lecturers guide students in using AI tools ethically, critically, and effectively to support self-regulated learning in EFL education.

DECLARATION OF AI AND AI-ASSISTED TECHNOLOGIES

During the preparation, the author used ChatGPT Plus (GPT-5.5) to assist with language refinement, readability improvement, paragraph organization, and academic style adjustment. The tool was not used to collect data, analyze interview responses, generate research findings, or replace the author's interpretation of the data. The author has reviewed, revised, and edited all AI-assisted outputs as needed and takes full responsibility for the accuracy, integrity, and originality of the final manuscript.

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