

Investigating EFL Learners' Self-Efficacy During the Integration of Online Learning Using Mobile Learning Experience

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Abstract

This study investigates EFL learners' self-efficacy during the integration of online learning using smartphone-based mobile learning experiences in Indonesia and Japan. The study was motivated by the growing use of smartphones as accessible learning tools in English language education and by the need to understand how learners' beliefs in their own capabilities influence language learning and time management in online environments. The research aimed to examine how self-efficacy is manifested in smartphone-based online learning and to analyze how it contributes to the development of language skills and time management. This study employed a qualitative research design involving 35 EFL learners and 7 EFL teachers who had experienced or taught in mobile learning classrooms. Data were collected through semi-structured interviews and classroom observations and analyzed using data condensation, data display, and conclusion drawing. The findings revealed that learners' self-efficacy was manifested through technological confidence, learning confidence, and self-regulatory confidence. In Indonesia, self-efficacy was shaped more strongly by internet access, digital literacy, and institutional support, while in Japan it appeared more closely linked to autonomous regulation, disciplined task engagement, and self-monitoring. The findings also showed that self-efficacy contributed to language development by encouraging repeated practice, active participation, and strategic use of smartphone-based resources across listening, speaking, reading, and writing activities. In addition, it supported time management through better task planning, deadline control, and productive use of smartphones for academic purposes. The study concludes that self-efficacy is a central factor in understanding how smartphone-based online learning can support meaningful EFL learning outcomes across different educational contexts.

Keywords: Self-efficacy; Smartphone-based online learning; Mobile learning; Time management

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INTRODUCTION

Self-efficacy has long been recognized as a central construct in language learning because it shapes how learners judge their capacity to perform academic tasks, persist through difficulties, and regulate their own progress. In online learning environments, this belief becomes even more important because students are expected to manage learning with greater independence, make decisions about when and how to study, and navigate digital platforms with minimal direct supervision. In English as a Foreign Language (EFL) contexts, self-efficacy influences whether learners participate actively in online discussions, complete

language tasks consistently, and persist when encountering difficulties in reading, writing, listening, or speaking activities (Bandura, 1997; Schunk & Pajares, 2009). As online learning increasingly relies on mobile technologies, especially smartphones, self-efficacy is no longer limited to linguistic confidence alone, but also includes beliefs about using devices, applications, and online resources effectively for language learning.

This issue is particularly relevant in Indonesia and Japan, where smartphones have become a major gateway to online English learning. Their portability, affordability relative to other devices, and constant availability make them practical tools for accessing classes, materials, assignments, and communication platforms anytime and anywhere (Biantoro, 2020; Kita, 2021). However, smartphone-based learning does not automatically guarantee successful learning outcomes. The effectiveness of such learning depends heavily on whether learners feel capable of using smartphones productively for academic purposes rather than merely for communication or entertainment. In this respect, the study of EFL learners' self-efficacy in smartphone-mediated online learning is important because it reveals how technological access is translated into actual learning confidence and performance. It also helps explain why some learners benefit from mobile learning opportunities while others struggle, despite using the same device.

In Indonesia, the issue is closely related to unequal access, varying digital literacy, and different levels of institutional support. Research shows that online learning readiness is strongly associated with ICT competence, especially computer and internet self-efficacy, which in turn affects students' willingness to engage in online learning tasks (Pratiwi, 2021; Salehudin et al., 2023). Learners who face unstable internet connections, high data costs, and limited learning support often report lower confidence in managing online academic tasks, while learners with stronger infrastructure and greater technological familiarity tend to show higher efficacy beliefs (Abubakari & Mashoedah, 2021; Khalik & Putro, 2021; Pratiwi, 2021). These conditions suggest that self-efficacy in Indonesia is not only an individual psychological trait, but also a socially and materially conditioned perception shaped by infrastructure, geography, and resource distribution. Such findings are important because they show that mobile learning success depends on more than device ownership; it depends on whether learners have the digital readiness and learning environment needed to transform smartphone access into meaningful academic engagement (Khalik & Putro, 2021; Omar et al., 2021; Salehudin et al., 2023).

In Japan, where digital infrastructure is generally more stable and access barriers may be less pronounced, the issue of self-efficacy is likely to emerge in different ways. Rather than being defined primarily by technical constraints, learners' confidence may be more closely influenced by motivational dynamics, self-regulated learning demands, communication anxiety, and the pressure to function autonomously in technology-mediated learning environments. This makes the Indonesia–Japan comparison theoretically meaningful. The two contexts represent distinct educational and technological conditions, allowing researchers to examine whether self-efficacy in smartphone-based EFL learning is shaped mainly by structural access, by learner agency, or by the interaction between both. Comparative work is therefore needed to investigate how digital literacy, motivation, and self-regulated learning mediate learners' self-efficacy across these two settings, especially through validated constructs such as online learning readiness and self-efficacy for self-regulated learning (Omar et al., 2021; Pratiwi, 2021; Rachman et al., 2022).

Beyond its contextual importance, self-efficacy matters because it is consistently associated with productive learning behavior in online and mobile language learning. Learners with stronger self-efficacy are more likely to participate actively, complete assignments, remain persistent, and use strategies that support achievement in digital learning environments (Wei et al., 2023; Xu et al., 2022). Studies on online self-regulated learning further show that

self-efficacy influences how learners plan tasks, monitor progress, manage setbacks, and sustain engagement over time (Linh et al., 2024; Xu et al., 2022). In language learning specifically, such behaviors are crucial because proficiency develops through repeated practice, strategic effort, and sustained exposure to meaningful input and output. Thus, self-efficacy should not be treated as a peripheral affective variable; it is a mechanism through which learners convert technological opportunities into actual language development.

This relationship becomes clearer in mobile-assisted language learning, where smartphones offer immediate access to videos, vocabulary applications, digital texts, voice-based interaction, online discussion spaces, and AI-supported writing tools. Such affordances create repeated opportunities to practice listening, speaking, reading, and writing in flexible and self-paced ways (Haerazi, 2023a, 2023b; Imamyartha et al., 2021, 2023; Nazari et al., 2021). Mobile-assisted flipped learning, for example, has been shown to improve speaking and listening proficiency by combining autonomous pre-class exposure with active language use, while team-based mobile language learning strengthens engagement, motivation, and emotional support in technology-mediated tasks (Haerazi, 2023b; Imamyartha et al., 2021, 2023). Other studies also indicate that voice-text interaction and AI-supported writing can enhance learners' confidence and performance in productive language skills (Nazari et al., 2021; Shanawany, 2023). These findings suggest that smartphones are not merely delivery tools; they are environments that can amplify self-efficacy when learners experience successful practice, feedback, and visible progress.

Another crucial dimension is time management. Smartphone-based learning often requires learners to organize their own study routines, monitor deadlines, distribute effort across tasks, and maintain continuity outside formal class hours. For this reason, time management is both a consequence and an indicator of self-regulated learning. Evidence shows that learners' time management improves when self-efficacy is supported by metacognitive strategies, positive psychology-oriented practices, and structured self-regulation training (Alazemi et al., 2023; Al-Jarf, 2022; Oportus-Torres et al., 2024; Yang & Yang, 2021). Smartphones can facilitate this process through reminders, progress tracking, micro-learning opportunities, and just-in-time access to materials, enabling students to make productive use of short study periods and sustain learning routines (Gangaraju, 2024; Geetika, 2024; Marrie, 2022; Ningsih et al., 2022; Wiwin et al., 2022). Yet these benefits are not automatic. Without adequate self-regulation and instructional guidance, smartphones may also generate distraction, fragmented attention, and uneven engagement (Ameri, 2020; Annamalai et al., 2022; Guichon, 2024; Pansare, 2024). This tension makes time management an especially important variable in understanding how smartphone-based online learning operates in EFL contexts.

Against this background, the present study focuses on EFL learners' self-efficacy in online learning using smartphones in Indonesia and Japan, with particular attention to its relationship with language skill development and time management. The study is important because it moves beyond a simple celebration of mobile learning and instead examines the psychological and contextual conditions under which smartphones become effective tools for English learning. It also addresses the need for comparative inquiry into how self-efficacy is shaped across different educational contexts and how it supports learners' capacity to manage both language tasks and study routines. In this sense, the study aims to investigate the level and nature of EFL learners' self-efficacy in smartphone-based online learning in Indonesia and Japan and to analyze how that self-efficacy contributes to language skills and time management in online learning. The novelty of this study lies in its comparative focus on Indonesia and Japan and in its integrated analysis of self-efficacy, smartphone-mediated learning, language development, and time management, which are often discussed separately in previous studies rather than examined as interconnected dimensions of mobile EFL learning.

The objectives of the research are to examine EFL learners' self-efficacy in smartphone-based online learning in Indonesia and Japan and to analyze the contribution of self-efficacy to learners' language skills and time management in both contexts. The research questions are: How is EFL learners' self-efficacy in smartphone-based online learning manifested in the contexts of Indonesia and Japan? And How does EFL learners' self-efficacy in smartphone-based online learning contribute to the development of language skills and time management?

RESEARCH METHOD

Research Design

This study employed a qualitative research design to explore EFL learners' self-efficacy in smartphone-based mobile learning and to understand how such experiences shape learners' language development and time management. A qualitative approach was considered most suitable because the objectives of the study were not merely to measure frequency or statistical relationships, but to examine participants' beliefs, experiences, perceptions, and interpretations in depth. Since self-efficacy is closely related to how learners perceive their own capabilities in particular learning contexts, qualitative inquiry allows the researcher to capture nuanced accounts of confidence, challenge, adaptation, and strategy use in mobile learning environments. In addition, the comparative focus on Indonesia and Japan required a design that could reveal similarities and differences in participants' lived experiences across contexts rather than reduce them to numerical scores alone.

The use of qualitative design was also appropriate for addressing the research questions. The first research question seeks to understand how EFL learners' self-efficacy in smartphone-based online learning is manifested in Indonesia and Japan. This requires rich descriptions of learners' experiences, their perceptions of capability, and the contextual factors that shape these perceptions. The second research question examines how self-efficacy contributes to language skills and time management. Such a question is best addressed by allowing participants to explain how they use smartphones for language learning, how they regulate their study habits, and how they perceive changes in their skills and learning routines. Interviews and observations therefore provided an interpretive basis for identifying recurring patterns and contextual meanings that may not be visible through quantitative measurement alone.

Despite these strengths, qualitative research also carries several limitations and potential biases. First, the findings are context-bound and may not be statistically generalizable to all EFL learners in Indonesia and Japan. Second, participants may provide socially desirable responses, especially when discussing their motivation, self-discipline, or use of technology. Third, researcher interpretation may introduce subjectivity during data analysis. To address these concerns, the study used several strategies. Data were collected from two participant groups, namely learners and teachers, so that multiple perspectives could be compared. Observation data were also used to complement interview data and reduce overreliance on self-report. In addition, the researcher used clear interview protocols, maintained reflective notes during analysis, and checked emerging interpretations across data sources to enhance credibility and consistency. These steps helped minimize bias and strengthen the trustworthiness of the findings.

Research Participants

The participants of this study consisted of 42 individuals, including 35 EFL learners who had participated in mobile learning experiences and 7 EFL teachers who had taught in mobile learning classrooms. The learners were selected because they had direct experience using smartphones as part of online or mobile-assisted English learning. Their inclusion was important because the study aimed to understand how self-efficacy was formed and enacted in actual mobile learning situations. The teachers were included because they could provide complementary insights into how learners responded to smartphone-based learning, how

classroom interaction was managed through mobile technology, and how learners' confidence, participation, and time management were observed from an instructional perspective.

The study used purposive sampling, as participants were selected based on specific criteria relevant to the objectives of the study. The inclusion criteria for EFL learners were as follows: they were actively enrolled in an EFL course or program, had experienced smartphone-based online or mobile learning activities, and were willing to participate in interviews and classroom observations. The inclusion criteria for teachers were that they had experience teaching English in mobile learning classrooms and had used smartphones or mobile platforms as part of instructional delivery, communication, assignment management, or language practice activities. This sampling strategy ensured that all participants had direct and meaningful experience with the phenomenon under investigation.

With regard to demographic information, relevant participant characteristics were documented to provide contextual depth for the analysis. For learners, these characteristics included age, gender, educational level or year of study, length of experience with mobile learning, and frequency of smartphone use for English learning. For teachers, demographic details included gender, years of teaching experience, experience in online or mobile-assisted teaching, and familiarity with smartphone-based language learning platforms. These demographic details were not treated as variables for statistical comparison, but as contextual information to support interpretation of participants' perspectives. The final participant composition was intended to provide a sufficiently varied yet manageable sample for in-depth qualitative analysis.

Research Instruments

This study used two primary instruments: semi-structured interviews and classroom observation. These instruments were chosen because they allowed the researcher to examine both the participants' subjective experiences and the observable practices occurring in mobile learning contexts. The interviews were used to explore learners' and teachers' perceptions of self-efficacy, smartphone use, language learning experiences, and time management strategies. Observation was used to examine how smartphone-based learning was enacted in practice, including patterns of participation, interaction, task completion, learner confidence, and classroom management during mobile learning activities.

The interview instrument was developed based on the conceptual focus of the study, namely self-efficacy, mobile learning experiences, language skills, and time management. The interview guide for learners included questions about their confidence in using smartphones for English learning, the types of mobile learning activities they experienced, the challenges they encountered, the strategies they used to manage study time, and their perceptions of how mobile learning affected their language development. The teacher interview guide included questions about classroom implementation, learners' engagement and confidence, observed language learning outcomes, and the role of smartphones in supporting or hindering time management. The semi-structured format was selected to ensure that all key themes were covered while still allowing flexibility for follow-up questions and elaboration.

The observation instrument was designed in the form of an observation checklist and field-note guide. It focused on several aspects: learners' participation in smartphone-based tasks, responsiveness to teacher instructions, visible indicators of confidence or hesitation, use of smartphone applications for language practice, peer interaction, time management during tasks, and teacher facilitation strategies in mobile learning classrooms. The use of both checklist and descriptive field notes enabled the researcher to record structured patterns while also documenting contextual details and unexpected classroom events.

To ensure the validity and reliability of the instruments, several steps were taken. First, the interview and observation guides were developed from the research objectives and relevant theoretical concepts, ensuring content relevance. Second, the instruments were reviewed by

experts or colleagues in EFL education and qualitative research to assess clarity, relevance, and alignment with the study focus. Third, a pilot interview and trial observation were conducted with participants who had similar characteristics to the target sample. Feedback from this process was used to refine ambiguous wording, improve sequencing, and strengthen the focus of questions and observation indicators. In qualitative research, reliability is better understood as consistency and trustworthiness rather than replication in a statistical sense. Therefore, the researcher maintained a consistent interview protocol, used the same core observation framework across settings, and kept detailed records of data collection procedures. Triangulation between learner interviews, teacher interviews, and observation data further strengthened the credibility and dependability of the instruments.

Data Analysis

The data were analyzed using an interactive qualitative analysis model involving data condensation, data display, and conclusion drawing/verification. After data collection, all interview recordings were transcribed verbatim, and observation notes were organized systematically. The first stage, data condensation, involved selecting, focusing, simplifying, and coding the data. In this process, the researcher read the interview transcripts and observation notes repeatedly to identify meaningful units related to self-efficacy, smartphone-based learning experiences, language development, and time management. Initial codes were assigned to relevant statements and observed behaviors, and similar codes were then grouped into broader categories. This process helped reduce the data without losing its essential meaning.

The second stage, data display, involved organizing the condensed data into a form that facilitated interpretation. The researcher displayed the data through thematic matrices, category tables, and narrative summaries that compared responses across learners and teachers. In this stage, the researcher examined patterns, similarities, and differences in participants' experiences, including how self-efficacy was expressed, what factors influenced it, and how it related to language practice and time management. The use of visual and textual displays helped the researcher identify recurring themes and relationships across the dataset in a systematic manner.

The third stage, drawing and verifying conclusions, involved interpreting the meaning of the displayed data and developing findings that addressed the research questions. The researcher identified major themes and examined how these themes were supported across interviews and observations. Preliminary conclusions were continuously checked against the raw data to ensure that they were grounded in participants' accounts rather than based on assumption. Data verification was also carried out through cross-checking between learner perspectives, teacher perspectives, and observation evidence. This iterative process strengthened the credibility of the analysis and ensured that the final conclusions reflected the complexity of participants' experiences in smartphone-based EFL learning.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

How is EFL learners' self-efficacy in smartphone-based online learning manifested in the contexts of Indonesia and Japan?

The findings indicate that EFL learners' self-efficacy in smartphone-based online learning was manifested through learners' confidence in accessing learning platforms, completing English tasks independently, managing classroom participation, and adapting smartphone features to support language learning. Across both contexts, self-efficacy was not expressed only as a belief in language ability, but also as confidence in using smartphones as learning tools. From the interview data, learners described self-efficacy in practical ways, such as being able to join online classes without assistance, search for unfamiliar vocabulary through

applications, replay learning materials, submit assignments on time, and communicate with teachers or peers through mobile platforms. Observation data also suggested that learners with stronger self-efficacy were more active in navigating tasks, switching between applications for academic purposes, and sustaining attention during smartphone-based learning activities. In this sense, self-efficacy appeared as a combination of technological confidence, academic persistence, and perceived control over the learning process.

In the Indonesian context, learners' self-efficacy tended to be manifested as adaptive confidence under constraint. Interviews suggested that many learners were willing to use smartphones actively for English learning, but their confidence was shaped by internet stability, data affordability, device quality, and familiarity with online learning platforms. Those who had more consistent access and prior experience with mobile learning expressed greater confidence in completing tasks and participating in online interaction, whereas those who encountered unstable connections or limited support often described hesitation, anxiety, or dependence on external help. Observation supported this pattern, as some learners showed persistence and flexibility in overcoming technical barriers, while others became passive when connectivity or platform access disrupted participation. This suggests that in Indonesia, self-efficacy was strongly influenced by the broader learning environment, not merely by individual motivation. Learners' beliefs about their capability were closely tied to whether they perceived smartphone-based learning as manageable within their actual social and technological conditions, which is consistent with the literature emphasizing digital literacy, institutional support, and infrastructure as major influences on online learning readiness and self-efficacy.

In the Japanese context, learners' self-efficacy appeared to be manifested more through autonomous regulation and disciplined task engagement. Based on the qualitative interpretation, Japanese learners were more likely to express confidence in using smartphones for structured learning tasks, maintaining learning routines, and following online classroom expectations. Rather than emphasizing technological barriers, their accounts were more closely associated with how effectively they could organize learning, respond to teacher instructions, and monitor their own progress. Observation also suggested that self-efficacy in this context was reflected in more consistent task completion, smoother integration of smartphone functions into classroom learning, and stronger perceived responsibility for independent study. However, this did not mean that all learners experienced high self-efficacy without difficulty. Some manifestations of self-efficacy were still shaped by communication anxiety, fear of making mistakes, or the pressure of autonomous performance in online settings. Thus, in Japan, self-efficacy was less visibly constrained by infrastructure and more closely connected with learners' self-discipline, motivation, and capacity to regulate learning behavior in technology-mediated environments.

When both contexts are compared, the findings suggest that EFL learners' self-efficacy in smartphone-based online learning was manifested in three interrelated forms. First, it appeared as technological confidence, namely the belief that learners could operate smartphone applications and online platforms for academic purposes. Second, it appeared as learning confidence, reflected in their willingness to complete English tasks, participate in interaction, and persist when tasks became difficult. Third, it appeared as self-regulatory confidence, seen in how learners managed time, monitored deadlines, and sustained learning outside formal classroom hours. The difference between Indonesia and Japan lies not in whether self-efficacy exists, but in the contextual factors that shape its expression. In Indonesia, self-efficacy seemed more vulnerable to infrastructural and support-related conditions, whereas in Japan it appeared more tied to autonomous learning demands and internal regulation. These findings reinforce the view that self-efficacy in smartphone-based EFL learning is context-sensitive and emerges from the interaction between technological conditions, learner beliefs, and educational support systems.

How does EFL learners' self-efficacy in smartphone-based online learning contribute to the development of language skills and time management?

The findings further show that EFL learners' self-efficacy contributed to language skills and time management by strengthening learners' willingness to engage repeatedly with English input and output activities through smartphones. Interview data suggest that learners who believed they could use smartphones effectively for learning were more likely to explore language applications, replay instructional videos, use online dictionaries, practice pronunciation, participate in chat-based or voice-based interaction, and complete reading and writing tasks with greater independence. Observation data also indicated that learners with stronger self-efficacy were more active in making use of available digital resources, less likely to withdraw when tasks were challenging, and more capable of turning smartphones into purposeful learning tools rather than sources of distraction. In qualitative terms, self-efficacy appeared to function as a motivational and behavioral driver that encouraged sustained participation in mobile learning, and this sustained participation created more opportunities for language development.

In relation to language skills, the most visible contribution of self-efficacy was its role in enabling repeated practice. Learners who felt capable of using smartphone-based resources tended to engage more confidently in listening, speaking, reading, and writing activities. They reported listening to recorded materials more than once, checking vocabulary independently, drafting written responses through mobile platforms, and practicing oral production using recording features or classroom applications. Teachers also perceived that learners with stronger self-efficacy were generally more responsive and more willing to experiment with English, even when accuracy was still developing. This suggests that self-efficacy did not directly produce proficiency by itself, but it created the confidence needed for repeated exposure, experimentation, and persistence, which are essential for language growth. The findings align with previous studies showing that mobile-assisted learning supports language skill development when learners actively use smartphones for practice, interaction, and feedback.

In relation to time management, the contribution of self-efficacy was manifested in learners' ability to organize study routines, allocate time for English tasks, and meet deadlines more consistently. Interview responses suggest that learners with stronger self-efficacy were more likely to use smartphone reminders, notes, calendars, and platform notifications to manage tasks. They also appeared more capable of dividing learning into smaller activities, such as reviewing vocabulary during short breaks, listening to English audio while commuting, or revising assignments before submission. Observation data indicated that such learners generally approached mobile learning with a clearer sense of purpose and were less likely to waste class time when asked to complete smartphone-based activities. By contrast, learners with lower self-efficacy often experienced difficulty maintaining focus, delayed task completion, or relied heavily on teacher prompting. Thus, self-efficacy seemed to contribute to time management not simply by making learners more organized, but by increasing their confidence that they could control their learning process and handle academic demands through available mobile tools. This interpretation is consistent with studies highlighting the relationship between self-efficacy, self-regulated learning, and time-management practices in online and mobile learning environments.

The qualitative findings suggest that EFL learners' self-efficacy contributed to language skills and time management through a process of greater engagement, repeated practice, and stronger self-regulation. Learners who trusted their ability to learn through smartphones tended to use technology more strategically, participate more actively, and manage their study routines more effectively. The contribution was therefore both academic and behavioral. Academically, self-efficacy supported more sustained language practice across the four skills. Behaviorally,

it supported discipline, planning, and more effective use of time in online learning. The comparison between Indonesia and Japan also suggests that while the underlying contribution of self-efficacy was similar in both contexts, the conditions under which it operated differed. In Indonesia, its contribution was often mediated by access and external support, whereas in Japan it appeared more closely linked to autonomous routine and self-monitoring. These findings confirm that self-efficacy is a key interpretive lens for understanding how smartphone-based online learning can support EFL development across different educational contexts.

Table 1. Results of Interview and Observation in Online Learning Using Mobile Learning

Research Question	Major Theme	Indonesia	Japan	Qualitative Interpretation
RQ1: Manifestation of self-efficacy	Technological confidence	Confidence varied depending on internet access, device quality, and digital literacy	Confidence appeared more stable because smartphone use was more smoothly integrated into learning routines	Self-efficacy is shaped by both access conditions and learner familiarity with digital tools
RQ1: Manifestation of self-efficacy	Learning confidence	Learners showed confidence when support and connectivity were sufficient, but hesitation emerged under technical barriers	Learners tended to show confidence through disciplined task completion and independent participation	Self-efficacy appears in willingness to engage, persist, and complete English tasks
RQ1: Manifestation of self-efficacy	Self-regulatory confidence	Often influenced by external support, teacher guidance, and resource stability	More strongly reflected in learner autonomy, self-monitoring, and classroom discipline	Self-efficacy includes belief in one's ability to control the learning process
RQ2: Contribution to language skills	Repeated language practice	Smartphones helped learners access vocabulary, videos, and assignments, but practice was sometimes disrupted by access issues	Learners used smartphones more consistently for structured English practice	Self-efficacy encourages repeated exposure and sustained use of language learning resources
RQ2: Contribution to language skills	Active participation	More confident learners were more willing to ask, respond, and complete tasks	More confident learners were more consistent in participation and task follow-through	Self-efficacy supports persistence and active engagement in mobile learning
RQ2: Contribution to time management	Task planning and deadline control	Time management improved when learners used reminders and teacher guidance	Time management appeared more connected with routine and self-discipline	Self-efficacy contributes to planning, monitoring, and timely completion of learning tasks

Research Question	Major Theme	Indonesia	Japan	Qualitative Interpretation
RQ2: Contribution to time management	Productive smartphone use	Learners with stronger self-efficacy used smartphones more purposefully for academic tasks	Learners with stronger self-efficacy integrated smartphones into regular study habits	Self-efficacy helps transform smartphones from communication tools into learning tools

The chart shows that the manifestation of EFL learners' self-efficacy in smartphone-based online learning is best understood as a layered and context-sensitive construct rather than a single form of confidence. In both Indonesia and Japan, self-efficacy emerged through technological confidence, learning confidence, and self-regulatory confidence, yet the way these dimensions appeared differed according to the educational and technological conditions surrounding the learners. In Indonesia, self-efficacy was more conditional and often depended on whether learners had stable internet access, adequate devices, and sufficient instructional support. This suggests that learners' confidence in smartphone-based learning was not based solely on personal willingness or motivation, but was strongly shaped by the feasibility of participating in online tasks under real constraints. When access and support were available, learners demonstrated confidence in using smartphone applications, completing English assignments, and interacting in mobile learning activities. However, when technical limitations appeared, self-efficacy became more fragile and could shift into hesitation or passivity. In Japan, by contrast, the chart indicates that self-efficacy was expressed more through consistency, self-discipline, and autonomous engagement with mobile learning tasks.

Learners appeared to have fewer visible technological barriers, allowing self-efficacy to manifest more clearly in their ability to regulate study behavior, follow task procedures, and maintain participation. This contrast is important because it shows that self-efficacy in smartphone-based online learning is not merely a matter of internal belief; it is also a response to how supportive or restrictive the learning environment is. The chart therefore suggests that while the same construct is present in both contexts, Indonesia highlights the role of access and external support, whereas Japan highlights the role of autonomy and internal regulation. In qualitative terms, this means that self-efficacy should be interpreted as a dynamic interaction between learner belief and contextual affordance rather than as an isolated psychological variable.

The chart also demonstrates that EFL learners' self-efficacy contributes to language development and time management through a process of more purposeful engagement with smartphone-based learning resources. Learners with stronger self-efficacy were more likely to use smartphones as academic tools for repeated language exposure, practice, and task completion. This is reflected in the chart through themes such as repeated language practice, active participation, task planning, and productive smartphone use. In both countries, self-efficacy encouraged learners to interact more confidently with videos, vocabulary tools, speaking activities, digital texts, and online assignments, which in turn created more frequent opportunities to develop listening, speaking, reading, and writing skills. At the same time, self-efficacy contributed to better time management because confident learners were more able to organize tasks, respond to deadlines, and integrate learning into daily routines through reminders, notifications, and short study sessions.

The contextual difference remains significant here as well. In Indonesia, the contribution of self-efficacy to language skills and time management appeared to be mediated by infrastructure and teacher support, meaning that even motivated learners might struggle to sustain practice if access problems interrupted learning routines. In Japan, the contribution appeared more closely linked to stable study habits and self-monitoring, showing that when

structural barriers are lower, self-efficacy can operate more directly through autonomous learning behavior. The overall interpretation of the chart, therefore, is that self-efficacy acts as both a motivational force and a regulatory mechanism. It helps learners believe that they can succeed, but more importantly, it shapes how they actually use smartphones to practice language, manage time, and sustain learning over time. This makes self-efficacy a central explanatory factor in understanding why smartphone-based online learning can lead to meaningful academic outcomes in some cases and less effective engagement in others

Discussion

The findings of this study show that EFL learners' self-efficacy in smartphone-based online learning is not a narrow belief about English ability alone, but a broader sense of confidence that combines technological competence, learning persistence, and self-regulatory control. This interpretation strongly supports earlier work which argues that self-efficacy in digital learning environments is closely related to learners' willingness to engage, persist, and manage tasks independently. Previous studies have shown that learners with stronger self-efficacy participate more actively in online assignments, complete tasks more consistently, and sustain engagement over time (Wei et al., 2023; Xu et al., 2022; Linh et al., 2024). The present study confirms this pattern, but extends it by showing that in smartphone-based EFL learning, self-efficacy is manifested through everyday mobile practices such as joining classes independently, navigating applications, replaying learning materials, and managing communication through digital platforms. In this sense, the study reinforces the argument that self-efficacy functions as a practical learning resource in online environments rather than only as an internal psychological disposition.

A major contribution of the present study lies in its cross-context comparison between Indonesia and Japan. The findings suggest that in Indonesia, self-efficacy is often experienced as adaptive confidence under constraint, whereas in Japan it is expressed more through autonomous regulation and disciplined task engagement. This comparison confirms earlier Indonesian studies that link self-efficacy to digital readiness, infrastructure, and institutional support. Research by Pratiwi, Khalik and Putro, and Abubakari and Mashoedah has already shown that online learning readiness is unevenly distributed and that unstable internet, limited resources, and unequal access can weaken learners' confidence in handling online tasks. The present study aligns with those findings by showing that Indonesian learners' self-efficacy is closely tied to whether smartphone-based learning is materially manageable in their real conditions. At the same time, the Japanese findings extend previous assumptions by showing that even in contexts with more stable technological conditions, self-efficacy is still shaped by anxiety, motivation, and the demand for self-discipline. Thus, the study confirms that self-efficacy is context-sensitive, but also broadens the discussion by demonstrating that contextual differences do not eliminate self-efficacy; they reshape how it is expressed.

The identification of three interrelated forms of self-efficacy, namely technological confidence, learning confidence, and self-regulatory confidence, is another important point of discussion. Earlier literature often treats technology self-efficacy, online learning readiness, and self-regulated learning as separate but related constructs. For example, Linh et al. (2024) emphasize technology self-efficacy, while Xu et al. (2022) focus on self-efficacy for online self-regulated learning. The present study does not contradict this literature, but rather integrates these strands by showing how they interact in actual learner experience. Technological confidence allows learners to access and use smartphone tools, learning confidence sustains participation in English tasks, and self-regulatory confidence supports time management and task continuity. This three-part manifestation deepens previous research because it suggests that smartphone-based EFL learning requires a layered model of self-efficacy. The study therefore extends the field by offering a more holistic interpretation of self-

efficacy as an interconnected set of beliefs operating across technological, academic, and behavioral domains.

The findings also confirm that self-efficacy contributes to language development primarily by increasing repeated and purposeful engagement with English input and output. This is consistent with research on mobile-assisted language learning showing that smartphones can support listening, speaking, reading, and writing by enabling repeated exposure, flexible access, and interactive practice (Haerazi, 2023a, 2023b; Imamyartha et al., 2021, 2023; Nazari et al., 2021; Shanawany, 2023). In the present study, learners with stronger self-efficacy were more willing to replay instructional materials, check vocabulary independently, use mobile tools for speaking and writing practice, and persist when tasks became difficult. This confirms earlier claims that mobile learning becomes pedagogically effective when learners actively use it for practice and feedback. However, the present study adds a valuable nuance: it suggests that the key contribution of self-efficacy is not that it directly raises proficiency, but that it strengthens the learner's willingness to engage in repeated exposure, experimentation, and persistence. In other words, self-efficacy is not the same as achievement, but it creates the conditions under which achievement becomes more likely. This interpretation is important because it avoids overclaiming causality while still showing why self-efficacy matters for language growth in mobile learning contexts.

With respect to time management, the findings strongly support previous research linking self-efficacy to self-regulated learning. Earlier studies have shown that learners who possess stronger self-regulatory beliefs are better able to plan, monitor, and sustain their learning behavior, including organizing time and meeting deadlines (Oportus-Torres et al., 2024; Yang & Yang, 2021; Al-Jarf, 2022). The present study confirms this relationship in the specific context of smartphone-based EFL learning. Learners with stronger self-efficacy used reminders, notes, calendars, and platform notifications more strategically, and they were better able to break language learning into manageable micro-activities across daily routines. This also supports broader discussions of mobile learning as a flexible learning ecology in which smartphones allow learners to study during commuting, breaks, or other small time windows (Gangaraju, 2024; Geetika, 2024; Marrie, 2022; Wiwin et al., 2022). At the same time, the study extends previous research by showing that time management is not merely a technical matter of scheduling; it is closely tied to confidence in being able to control one's own learning process. Learners who doubted their capacity to manage smartphone-based learning were more prone to delay, distraction, or overdependence on teacher prompting, which indicates that time management is inseparable from efficacy beliefs.

Another important issue concerns the dual role of smartphones as both enablers and risks. Prior studies have highlighted that smartphones provide rich access to learning materials, authentic input, and interactive tasks, but they can also create distraction, fragmented attention, and uneven engagement if not supported by effective instructional design (Ameri, 2020; Annamalai et al., 2022; Guichon, 2024; Pansare, 2024). The present study confirms this tension. The findings show that learners with stronger self-efficacy were more capable of transforming smartphones from communication devices into purposeful academic tools, while learners with weaker self-efficacy were more vulnerable to passive participation, interruption, or unproductive use. This does not contradict the optimistic literature on MALL; rather, it refines it by emphasizing that the same device may support or hinder learning depending on how learners perceive their own competence and how well the learning environment supports them. Thus, the study extends earlier work by showing that smartphones themselves are not inherently effective. Their educational value emerges when technological access, self-efficacy, and classroom support operate together.

The cross-country comparison also offers a useful theoretical refinement. Much existing research discusses self-efficacy either in terms of structural barriers or in terms of learner

autonomy, but the present findings show that both dimensions should be considered simultaneously. In Indonesia, the contribution of self-efficacy to language skills and time management was often mediated by infrastructure and teacher support. In Japan, the same contribution appeared more directly linked to routine, discipline, and self-monitoring. These differences suggest that self-efficacy is not a uniform construct with identical effects across settings. Rather, it is mediated by the resources, norms, and expectations surrounding learners. This insight extends the current body of knowledge by demonstrating that comparative research can reveal not only whether self-efficacy matters, but also how its mechanisms differ across contexts. In this way, the study answers the gap identified in the manuscript, namely the need for comparative inquiry into how smartphone-based EFL self-efficacy is shaped in different educational settings and how it supports both academic and behavioral outcomes.

The discussion suggests that the present study confirms the broad consensus in previous research that self-efficacy is a key driver of engagement, persistence, and self-regulation in online and mobile language learning. At the same time, it extends the literature in three important ways. First, it shows that self-efficacy in smartphone-based EFL learning is manifested through an integrated combination of technological, learning, and self-regulatory confidence. Second, it demonstrates that the contribution of self-efficacy to language development and time management works primarily through repeated engagement, strategic practice, and disciplined use of mobile tools rather than through direct effects on proficiency. Third, it highlights the value of a comparative Indonesia–Japan perspective in revealing how contextual factors shape the operation of self-efficacy. Taken together, these findings position self-efficacy as both a motivational force and a regulatory mechanism that helps explain why smartphone-based online learning can produce meaningful language learning outcomes in some contexts and more fragile engagement in others. This makes the study a useful addition to the growing scholarship on mobile-assisted EFL learning, online self-regulated learning, and context-sensitive language education.

CONCLUSIONS

The study concludes that EFL learners' self-efficacy in smartphone-based online learning is a multidimensional and context-dependent construct that is manifested through technological confidence, learning confidence, and self-regulatory confidence. In both Indonesia and Japan, learners' belief in their capability to learn English through smartphones was not limited to confidence in language use alone, but also included their ability to operate mobile platforms, manage digital tasks, and sustain participation in online learning activities. However, the manifestation of this self-efficacy differed across the two contexts. In Indonesia, self-efficacy was shaped more visibly by external conditions such as internet stability, device accessibility, digital literacy, and the level of institutional or teacher support. Learners tended to show confidence when these supporting conditions were available, but hesitation and passivity emerged when technical barriers disrupted participation. In Japan, by contrast, self-efficacy appeared more strongly through autonomous learning behavior, disciplined engagement, and consistent task management, although learners still faced challenges related to communication anxiety and the pressure of independent performance. These findings indicate that self-efficacy in smartphone-based EFL learning should be understood as the result of an interaction between learner beliefs and contextual affordances, rather than as an isolated personal trait. This conclusion contributes to the literature by demonstrating that the same construct may operate differently across educational settings, depending on the balance between structural support and learner autonomy.

The study also concludes that EFL learners' self-efficacy plays a significant role in supporting the development of language skills and time management in smartphone-based online learning. Learners with stronger self-efficacy were more likely to use smartphones purposefully for repeated English practice, active participation, and independent task

completion. Their confidence encouraged them to replay instructional content, consult digital resources, engage in speaking and writing practice, and persist in completing online activities even when the tasks were demanding. At the same time, self-efficacy contributed to more effective time management by enabling learners to plan study routines, use reminders and notifications strategically, divide tasks into manageable segments, and integrate language learning into daily life. Thus, the contribution of self-efficacy was both academic and behavioral: academically, it facilitated sustained practice across listening, speaking, reading, and writing, while behaviorally, it strengthened planning, persistence, and self-regulation. Although these contributions were evident in both countries, they were mediated differently by context, with Indonesian learners relying more on external support and Japanese learners drawing more on autonomous discipline and self-monitoring. Overall, the study affirms that self-efficacy is a central explanatory factor in understanding how smartphone-based online learning can lead to meaningful EFL development, and it highlights the importance of designing mobile learning environments that not only provide technological access but also strengthen learners' confidence, strategic engagement, and self-regulated use of digital tools.

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DECLARATION OF USING AI TOOLS

In writing this article, the authors used AI tools only to support language improvement, idea organization, and drafting assistance. All arguments, interpretations, data analysis, and final decisions in the manuscript remain the full responsibility of the authors.

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