


A Systematic Literature Review on The Use of MALL (Mobile-Assisted Language Learning) in English Learning and Teaching Process Across Educational Levels in Indonesia

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Abstract	Article Info
<p>MALL (Mobile-Assisted Language Learning) in educational settings has become increasingly widespread. Particularly in the English learning and teaching process. There are various studies investigating MALL which is believed to help improve language learning and teaching process. This paper systematically explored the use of MALL in English learning and teaching processes across educational levels in Indonesia based on empirical studies. Forty-five articles were selected from reputable journals, reviewed to identify the pedagogical approaches offered by MALL to know the potential mobile device tools that could be used in the English learning and teaching process. The findings have shown a steady increase in research on the use of MALL across educational levels in Indonesia. However, the need for improvement studies employs the mixed-method approach, qualitative and quantitative for future studies. In addition, further investigation is also required to assess the efficiency of MALL in enhancing English skills. In order to understand how MALL promotes multimodal material, learners' autonomy, incorporates real, and increases students' engagement through gamification, this study synthesizes current empirical data with an emphasis on the Indonesian context. This study offers a contextualized understanding of pedagogical techniques pertinent and mobile learning tools to Indonesian Education levels. In contrast to other reviews that concentrated on specialize ability or more general global viewpoints. To sum up, future research should focus on the thoughtful integration of MALL, pedagogical approach, and the potential mobile device tools that can be used to yield more meaningful outcomes</p>	<p>Article History <i>Received:</i> July 29, 2025 <i>Revised :</i> August 11, 2025 <i>Accepted:</i> October 20, 2025</p> <p>Keywords: MALL, Mobile-Assisted Language Learning, Indonesian Educational Levels, Mobile Device Tools</p>
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INTRODUCTION

In recent years, technology has significantly transformed educational practice, including language learning and teaching. One innovation mostly used in educational areas is MALL (Mobile-Assisted Language Learning), which integrates the mobile technology to the language instruction and enables learners to access language resources anytime and anywhere. MALL generally refers to the language learning activities that are conducted through mobile devices without being restricted by physical location or a determined time (Kukulka-Hulme et al., 2017). (Rajendran & Md Yunus, 2021) argue that MALL (Mobile-Assisted Language Learning) is one of the areas that has significantly indicated positive outcomes. The use of mobile devices in modern education can give good impact because of their widespread use, which has led the MALL to support in educational setting across the worldwide (Kukulka-Hulme et al., 2017). Mobile devices like laptops, personal digital assistants (PDA), tablets, smartphones, mobile phones and other can facilitate learning by making learning easier for learners (Hashim et al., 2017). Therefore, the previous research indicate that MALL is beneficial for ESL and EFL learners of all ages in both primary and secondary schools (Rajendran & Md Yunus, 2021). (Khlaisang & Sukavatee, 2023) studied that MALL can support English language communication through higher

education specially in Thailand. Therefore, (Ishaq et al., 2021) argues that MALL through gamification can more exciting and useful for stakeholders. Additionally, there are some topics in past studies that explore MALL impact in perception (Dağdeler & Demiröz, 2022; Ebadi & Raygan, 2023; Puspitasari et al., 2024; Stoughton & Kang, 2024), speaking (Al Ayub Ahmed et al., 2022; Aliakbari & Mardani, 2022; Bai, 2024; Benlaghrissi & Ouahidi, 2024), listening (Shaojie et al., 2024), writing (Pingmuang & Koraneekij, 2022), vocabulary (Al-Ahdal & Alharbi, 2021; Ou-Yang & Wu, 2017; Tavassoli & Beyranvand, 2023; Xodabande et al., 2024), reading (Pearlin & Gandhi, 2024), phrasal verb (Alhujaylan, 2024), pronunciation (Metruk, 2024; Tseng et al., 2022), and mobile device (Liu et al., 2019; Mahdi, 2018; Ok & Ratliffe, 2018; Yuen & Schlote, 2024).

Despite its growing popularity, there is a lack of systematic reviews that explore how MALL could offer a plausible way in enhancing the English learning and teaching process, particularly in Indonesian context. A few research about systematic reviews looked the language learning in MALL by analyzing the studies from 1993 and 2016 (Burston et al., 2024; Thongsri et al., 2019). In addition, a few existing literature reviews have analyzed MALL for speaking skills among ESL and EFL students between 2016 to 2020. However, reviews done specifically on studies investigating the use of MALL in English learning and teaching process across Indonesian educational levels are still scarce. Thus, this review seeks to answer the following research questions:

1. What are the pedagogical approaches offered by MALL in the English learning and teaching process across educational levels in Indonesia?
2. What are the potential mobile device tools that could be used in the English learning and teaching process across educational levels in Indonesia?

To address the research questions, a systematic literature review was done for this research. To answer RQ 1, the researchers will apply thematic analysis to find the emerging themes. Meanwhile, to answer the RQ 2, the researcher will be applying descriptive analysis summary focusing on year of publication, research setting (Indonesian context), education level, type of mobile device and mobile features used, English skills and the results will be tabulated and visualized using tables.

Therefore, this study is crucial for offering a timely and context-specific synthesis of MALL practices at all the educational levels in Indonesia. In Indonesian context, MALL can be a unique challenge in the implementation because of the local culture and language diversity (Hadi, 2023). Despite the global growth in MALL research, as evidenced by (Koleini et al., 2024), they identified the key trends like ubiquitous access, mobile enhance the vocabulary acquisition and learners' autonomy. However, there is currently a lack of systematic research that is specially focused on the educational context in Indonesia. Furthermore, recent empirical studies shown that MALL demonstrate significant improvement in enjoyment, speaking fluency, and grit among EFL students (Hwang et al., 2024). While, (Karakaya & Bozkurt, 2022) highlight the impact of mobile flashcards for technical vocabulary development in university levels, that underscore the growing pedagogical potential of MALL. Thus, this review study, which provides evidence-based insights for educator, policy makers, and curriculum creators is urgently needed to bridge the gap between global findings and specific realities classroom setting in Indonesia.

Writing is a central component of language proficiency and academic success, particularly in contexts where English students are expected to express complex ideas, engage critically with content, and construct coherent arguments. Among the various genres of academic writing, argumentative essays are especially important as they require English students to articulate a position, support it with evidence, and address counterarguments in a structured and persuasive manner. However, for English students, mastering this genre poses significant challenges. Many struggles with articulating a clear thesis, organizing their ideas coherently, maintaining logical flow, integrating supporting evidence, and adhering to the conventions of argumentative discourse. These challenges often stem not only from limited linguistic resources but also from underdeveloped critical thinking skills and unfamiliarity with formal academic writing structures. These difficulties often stem from limited vocabulary, underdeveloped critical thinking skills, and a lack of familiarity with the structure and conventions of argumentative texts. Despite these challenges, assessment tools specifically tailored to evaluate the argumentative essay abilities of English students in the first semester remain limited.

Despite the recognized importance of argumentative essay, there exists a notable lack of valid and reliable assessment tools specifically tailored to evaluate the argumentative essay abilities of novice English students. Most existing instruments are either designed for more advanced writers or focus on general writing ability rather than the distinctive features of argumentative texts. For instance, instruments such as the TOEFL iBT writing rubric or IELTS writing band descriptors (Fleckenstein et al., 2020; Liang, n.d.; Llosa & Malone, 2017), evaluate general academic writing skills but do not isolate or

adequately weigh key components of argumentation, such as counterargument incorporation or logical structuring of evidence. Similarly, other widely used assessment rubrics in second language writing research tend to be too broad or are designed primarily for intermediate or advanced students (“Assess. Writ.,” 2011; Hyland, 2019), making them less suitable for diagnosing specific challenges faced by English students.

Previous research has explored argumentative essay from a variety of angles, such as strategies employed by students (Nussbaum & Schraw, 2007), the effect of instructional interventions (Mayer, 2023), and the linguistic features of effective argumentation (Stapleton & Wu, 2015). However, these studies often assume a certain baseline proficiency and do not focus on assessment tool development for students in the first semester. For example, studies by (Ferris, 2004) and (Jo, 2021) examined error correction and discourse features in L2 writing but did not propose or validate assessment instruments tailored to entry-level students. Moreover, the available rubrics tend to emphasize surface-level language accuracy rather than deeper cognitive elements like reasoning, evidence, and logical flow components that are essential to argumentative essay.

In contrast, the aim of this study is to develop a valid and reliable assessment instrument specifically designed to evaluate the argumentative essay skills of English students, especially in English students in the first semester at Universitas Ma’arif Lampung and Institut Agama Islam Negeri Metro. The instrument will focus on key components of argumentative essays, such as clarity of thesis, coherence of argument, use of supporting evidence, and logical organization elements that are frequently overlooked in general-purpose rubrics. By targeting these foundational components, this instrument will fill an important gap in the literature and pedagogical practice.

The development process would be grounded in established writing theories and informed by models such as the Toulmin model of argumentation (Toulmin, 2003), which provides a framework for evaluating argument structure, and the Common European Framework of Reference for Languages (CEFR), which offers performance descriptors for various levels of language proficiency. The design will involve expert validation, pilot testing with target users, and rigorous statistical analysis to ensure the instrument’s reliability and construct validity. This study therefore offers a novel contribution by focusing on the intersection of argumentative essay. While prior instruments have addressed writing evaluation more generally, few have attempted to design developmentally appropriate, research-based tools that directly address the cognitive and rhetorical demands of argumentative essay for English students. By addressing this gap, the present study seeks to develop a valid and reliable analytic rubric to assess English students’ argumentative essay skills, focusing on six key components: clarity of thesis, organization and coherence, supporting evidence, argument development, language use, and vocabulary range.

THEORETICAL REVIEW

Importance of English Learning and Teaching Process

A lot of researchers have attempted to describe the learning. According to (Brown, 1994) argues that learning is the process of interaction both he learners and educator with educational materials in classroom learning environment. Similarly, (Tomlinson, 1999) emphasized that learning is a deliberate activity in the process of involving memory related to the information being studied, like greetings phrases, language rules, and vocabulary. These perspectives highlight that learning is not merely the acquisition of knowledge, but a dynamic process shaped by interaction and mental engagement. From those definitions, it means that the learning is essentially process of understanding the language itself during the activities in the classroom. In the context of English as a global language for international communication, science, business, and technology, learning English is crucial for accessing global knowledge and educational opportunities. Moreover, the learning process plays a vital role in enhancing communication skills.

Teaching, on the other hand, is closely related to learning and is often viewed as a transferring knowledge process from the teachers to students (Munna & Kalam, 2021). It refers to combining of various elements within the learning and teaching process in which the teachers or educators identify and establish the learning objectives, implement teaching strategies, and develop teaching resources. The teaching and learning process involves several activities to enhance the effectiveness of teaching that include feedback, active learning, and create an inclusive learning environment. Moreover, teaching-learning is a systematic process to achieve learning objectives (Faizah, 2020). The process is characterized by conscious effort, behavior changes, and interactions with the teaching and learning environment. (Hudson, 1999) argues that the teaching-learning process is broadened to a teaching-

studying-learning process, and emphasizing the learner's active participation during the classroom activities. Within the learning and teaching activities, interaction is proposed as the main ideal during the learning process. In conclusion, learning is a conscious interaction between students, teachers, and the learning resources. While, teaching is a systematic effort to gain or achieve learning goals through the activities and strategies students engage in.

The Concept of MALL

MALL is an approach that is controlled by mobile-device to assist learning process (Elaish et al., 2019). It also describes as a supplementary method in learning approach (Mortazavi et al., 2021; Zhang & Pérez-Paredes, 2024). While (L. Wang, 2023) state that MALL is sub-area of mobile-learning that attain to increase number of scholars. As mention by (Suhair & Abdulameer, 2021) MALL align with the use of mobile technology in language education setting. Numerous studies found that topics explored within the scope of MALL were vocabulary, speaking, writing, students' motivation, students' perception etc. (Aghajani & Zoghipour, 2018; Aliakbari & Mardani, 2022; Nuraeni et al., 2020; Okumuş Dağdeler, 2023; Yuan et al., 2023; Zhen & Hashim, 2022). Align with this, some studies also focus on different topic like Language acquisition (Burston et al., 2024), and instructor challenges in conducting MALL (Chen, 2023). According to (Habib et al., 2022) MALL plays a big contribution in improving language learning. MALL could be defined as an application of different mobile technologies to help speed up language learning (Rajendran & Md Yunus, 2021). Thus, (Trifonova & Ronchetti, 2006) identify mobile learning as the application of Information Technology (IT) in enhancing learning experiences through mobile devices tools. Mobile learning is combination between digital learning and mobile computing technology (Huang, 2023). Therefore, (Naismith et al., 2004) divided two items of mobile technologies: 1) Personal and shared, 2) Portable and static. MALL has grown to be an important aspect of language learning, by encouraging the use of mobile phones to support language learning processes and communication between teachers and students (C. C. Lin et al., 2020). Moreover, (Wanda Dian Paramesti Fortuna Dewi et al., 2023) argue that MALL help to increases learners' ability like reading comprehension, their participation, motivation, and interaction in the classroom setting. In education setting, MALL which refers to the use of technology application including (hardware and software) to speed up the linguistic learning process. it is the common term in adoption of mobile technology in language learning (Ningsih et al., 2022). The unique feature of mobile devices bring the value to MALL that include (1) Portability (Movability is made possible and easier via mobile device); (2) Social interactivity (User communication is improved and facilitated by mobile device); (3) Context sensitivity (Provide real data on the location, environment, and time of learners via mobile device); (4) Connectivity (Mobile devices can be connected to each other, one another, and sharing the network); and (5) Individuality (Individual learning is possible). This aspect allows learning to occur without being bounded by the real location and time as well, it also supports an idea of self-learning to encourages the learners to be more independent (Rajendran & Md Yunus, 2021). It means that the learning and teaching process could be applied anywhere without meeting face to face in the classroom.

Application of MALL Across Educational Levels in Indonesia

Currently, social media and Learning Management System (LMS) are becoming the most popular tools assess and support language acquisition (Ningsih et al., 2022). The use of mobile apps in learning is to support traditional instruction (Klimova, 2021). There are various documents of mobile application that can be apply for language learning, such as Lonely Planet, Place, eStroke, Anki, Quizlet, Google translate, etc. Additionally, mobile technologies in form of social media application like WhatsApp, Facebook, Twitter (Ningsih et al., 2022), Duolingo (Loewen et al., 2019), WeChat-based (Guo & Wang, 2018) and other apps found to help enhance students learning process. These social media applications were observed to find out the potential way ins improve students' learning capabilities and students' motivation. The social media application can foster students to participate in learning activities since they have unique features and non-traditional teaching approaches (Ningsih et al., 2022). Many studies explore that technology is able to boost students' ability through the learning. Thus, various studies have focused on the review of the apps and proposing new concept for using technology in ELT context, this study was focus on educational levels across in Indonesia.

METHOD

This chapter outlines the systematic procedures used in conducting a comprehensive literature review on the use of MALL (Mobile-Assisted Language Learning) during the learning and teaching process across educational levels in Indonesia. A systematic literature review (SLR) was selected as the research method due to its capacity to synthesize a wide range of empirical studies using transparent,

replicable procedures to address both first and second research questions. The methodology draws upon the five-step framework for conducting systematic literature review proposed by (Khan et al., 2003) that explained in figure 1 below:

Figure 1. The five steps of systematic literature review proposed by Khan;



Step 1: Framing Questions for a Review

The widespread use of mobile technology in Indonesia has increasingly influenced the educational landscape, particularly in English learning and teaching process across educational levels in Indonesia. Mobile-Assisted Language Learning (MALL) provides interactive, personalized, and learner-centered approaches, potentially addressing existing pedagogical gaps. Despite the growing interest, few systematic reviews have synthesized empirical studies examining how MALL is used in educational levels in Indonesia. This review aims to bridge that gap by analyzing and interpreting relevant research from 2019 to 2025.

Step 2: Identifying Relevant Publications

During the next step of this review, researcher conducted a comprehensive search to identify studies that were relevant and aligned with the review’s objectives. The process began by collecting articles from Google Scholar using keyword combinations such as “MALL”, “Mobile-Assisted Language Learning”, “English Teaching”, “Indonesia”, and “Language Education”. To enhance the credibility of the review and minimize potential bias, the search was broadened by exploring the reference lists of selected studies. The review included full-text journal articles that presented empirical data. These materials were retrieved from Google Scholar, which was selected due to its extensive coverage of academic publications, particularly in the field of Indonesian education. After retrieving the initial set of studies, a two-stage screening process was applied, namely (1) First-Level Screening (articles were initially screened based on their titles and abstracts to determine relevance) and (2) Second-Level Screening (full texts were then reviewed to assess methodological quality and ensure alignment with the established inclusion criteria). Only studies that met all the inclusion criteria, such as focusing on MALL being conducted in formal education settings within Indonesian context, being published in SINTA 1, SINTA 2, Scopus-indexed journals, and involving English language learners or teachers were selected for the final review.

Step 3: Assessing the quality of studies

To guarantee the reliability, relevance, and academic rigor of the selected studies, a systematic evaluation was carried out using a clearly defined set of the inclusion and the exclusion criterion, which were adapted from established frameworks in prior systematic review that was conducted by (Kaliisa & Picard, 2017) and (Chua et al., 2020). The articles are chosen based on the inclusion and exclusion criterion that explained in table 1 below.

Table 1. Inclusion and exclusion criteria for this systematic literature review

No.	Criteria	Inclusion	Exclusion
1	Focus of Study	Use of MALL in English language learning and teaching	Not focused on MALL or not related to English learning and teaching

2	Devices	Smartphones, tablets, iPads, or other handheld mobile devices	Use of only non-mobile devices (e.g., computers or laptops)
3	Features	Utilization of mobile features (e.g., apps, media tools, internet)	No specific mobile feature used
4	Field of Study	Indonesian formal education settings (SMP/MTs/SMA/MA/SMK/University)	Non-formal settings (e.g., private English courses)
5	Language Skills	Any English skills (listening, speaking, reading, and writing)	Not related to English language skills
6	Context of Study	Conducted across Indonesian educational levels	Conducted outside Indonesia
7	Year of Publication	Published between 2019–2025	Published before 2019

By rigorously applying these inclusion and exclusion criteria, the review ensured that only studies with clear methodological integrity, relevant focus, and contextual appropriateness were included in the final analysis. This helped strengthen the reliability of the synthesized findings and provided a solid foundation for addressing the research questions concerning the pedagogical use of MALL in Indonesian secondary school English education.

Step 4: Summarizing the evidence

The digital database used to look for the articles in this study was Google Scholar since the research scope of this literature review is within Indonesian context. The keywords were used are “MALL”, “Mobile-Assisted Language Learning”, “English Teaching”, “Indonesia”, and “Language Education” were entered into the search engines, with the publication range limited to 2019-2025. The initial search on Google Scholar yielded 680 articles. These were selected by focusing specifically the use of MALL in the English learning and teaching process and strictly on the use of handheld mobile devices tools such as smartphones, laptops, tablets, and iPad. This filtering narrowed the selection to 42 articles. Further screening which is for full-text availability, empirical evidence, and Scopus-indexed/SINTA 1/SINTA 2 journals, there are 25 articles were further selected. From these, finally 10 articles were chosen based on the suitability of the research focus, particularly in formal educational settings in Indonesia. These final 10 articles served as the core references for the analysis and synthesis in this systematic literature review.

Step 5: Interpreting the findings

The findings of these study were examined utilizing a systematic review as the approach, and the relevant themes were developed to address the research questions. Table 2 below are display the database and methodology by the reviewed research. From table shows, the majority of the studies used a mix-method approach and qualitative and quantitative coming next. In terms levels of education, the majority of the research settings were secondary school level, while the rest were tertiary institutions as reviewed in Table 2.

Table 2. Analysis the methods and levels of education used in the studies reviewed:

Database	Quantitative	Qualitative	Mixed Method	Total
Google Scholar	2	3	5	10

Table 3. Analysis the levels of education in the studies reviewed:

Database	Secondary	Tertiary	Total
Google Scholar	5	5	10

RESULT AND DISCUSSION

Ten articles were selected as the most relevant from a systematic review of educational research published between 2019 to 2024 in MALL terms in the English learning and teaching process across educational levels in Indonesia. These articles served as the foundation and the most appropriate in addressing the research questions.

RQ 1: What are the pedagogical approaches offered by MALL in the English learning and teaching process across educational levels in Indonesia?

Current study state that MALL pedagogy is characterized by practical implementation and theoretical exploration (X. Wang et al., 2024). MALL indicates that pedagogical approach is effective to facilitating L2 development (Mohammadi et al., 2024). To address research question related to pedagogical approach above, ten articles that relevant were reviewed, and the findings were listed in the table below and synthesized to find out the similar patterns. The synthesis and the result are summarized in Table 4 below:

Table 4. Summary of the pedagogical approach offered by MALL in the English learning and teaching process across educational levels in Indonesia

No	Article/Study	Participant & Context	Result (Pedagogical Approach Offered by MALL)
1	(Dwigustini et al., 2021)	20 high school students	This research aims to utilized MALL as an application to help advance students in engage their writing, especially the integration of MALL into writing class has helped them to improve the skill. The positive terms are due to MALL application from this research showed the practicality, flexibility, novelty, and text security.
2	(Mutiaraningrum & Nugroho, 2021)	87 participants with student age ranged from 19-22	This research denoted the use of smartphone-based programs to assess language learning. It shows usefulness, practicality, portability, accessibility, and flexibility of smartphone used. Smartphone-based assisted language learning is the applications that fruitful for students. It is useful for expanding vocabulary, promoting autonomy, practicing English, self-regulation and independent learning.
3	(Ningsih et al., 2022)	5 Secondary school EFL teacher	This study explored teachers' perception of mobile technology in EFL classrooms. The teacher reported that MALL allowed for blended learning (in/out) the class, motivated learners, and promoted students-centered practices.

4	(Hasanah et al., 2022)	60 tertiary-level students in a remote area intensive English program	The pedagogical approach was focused on the bimodal input, where students both watched and read simultaneously, and increased vocabulary recognition and comprehension. The video context used the authentic one (e.g., Marvel's Loki series), promoting student engagement, authentic language exposure and multisensory learning.
5	(Adijaya et al., 2023)	Vocational high school students	The pedagogical framework from this study integrated multimodal content delivery, such as videos, audio, interactive quizzes and visual-rich materials. The aim was to improve language skills in a real-world context, and ensure students were prepared for a professional environment. The approach is emphasized by various items such as learner-centered instruction, flexibility in time, and task-based learning.
6	(Wanda Dian Paramesti Fortuna Dewi et al., 2023)	Experimental group; 29 students. Control group; 31 students.	This research was used Nearpod to foster interactive learning sessions that included quizzes, polls, videos, and collaborative boards. The use of real-time feedback gives the instructor a chance to assess understanding directly. This study believes this platform can increase the student's engagement and participation due to its visual rich and user-friendly interface.
7	(Abidin, 2023)	46 participants (16 males and 30 females), non-English majored first-year students	This memrise study supported vocabulary acquisition through spaced repetition, ensuring frequent and timely review of new words to help students enhance retention. This study also provides multimedia-based, personalized content to match the learners interest and proficiencies. This study also highlights how the mobile environment prompted awareness or learning distractions, pushing learners to manage their focus during mobile-based activities.
8	(Purwaningrum et al., 2024)	22 Indonesian senior high school students	This study used MALL focusing on the writing classroom to foster autonomous learning. By using mobile apps such as WhatsApp and social media platforms, they were employed for the idea generation, peer collaboration, and teacher feedback. The pedagogical approach of this study is process-based writing in helping students to engage in planning, drafting, and revising. It encouraged students critical thinking, creativity, and metacognitive reflection.

9	(Rahmani, 2024)	110 Undergraduate students in English Language Education	The pedagogical approach followed Zimmerman's SLR framework, promoting forethought, performance and reflection. The students used several apps to organize their English learning, plan tasks, and evaluate their progress. It is also demonstrating a shift toward learners' autonomy, personalized learning paths, and cognitive engagement.
10	(Suherman et al., 2024)	56 students from higher education	The use of Duolingo from this study integrated gamified elements such as points, levels, and streaks to maintain the learner's motivation and engagement. This study used real-time feedback for students to self-correct immediately to support autonomous learning. These features collectively encouraged continuous participation and improved language acquisition.

The findings above are categorized and classified into four main items to provide the answers for the first research question. The items are discussed in detail below;

Promoting Learner Autonomy and Self-Regulation through MALL

The central finding of this study is the encouragement the learner autonomy and self-regulated learning behaviors through MALL integration. Several studies (Mutiaraningrum & Nugroho, 2021; Purwaningrum et al., 2024; Rahmani, 2024; Suherman et al., 2024) highlight how mobile device tools foster students' independence in managing their own learning paths. For instance, students used applications such as WhatsApp, Duolingo, and Memrise to organize their tasks, set learning goals, receive instant feedback, and monitor their progress. This shows that the teaching method has shifted from traditional teacher-centered to more learner-centered models, where students are responsible for their cognitive, motivational, and behavioral engagement. In addition, the mobile applications allow students to have personalized learning experiences by enabling students to choose content that suits their interests and proficiency levels. The accessibility and flexibility of MALL platforms or applications empower the learners to engage learning materials anytime and anywhere, and promoting self-regulation learning habits beyond the classroom environment.

Enhancing Language Skills through Multimodal and Authentic Learning Materials

The second theme in this study is the use of multimodal and authentic content to develop students' language competencies across different skills. Studies conducted by (Hasanah et al., 2022), (Adijaya et al., 2023), and (Wanda Dian Paramesti Fortuna Dewi et al., 2023) demonstrate that MALL encourages skill enhancement through video-based, audio-supported, and visually engaging materials. These multimedia resources provide bimodal input such as combining reading and listening to reinforce vocabulary recognition, listening comprehension, and contextual understanding. In addition, authentic materials like TV series and workplace-related scenarios help students expose themselves to real-life language usage and cultural nuances, increasing their communicative competence and engagement. The integration of videos, quizzes, polls, and visual boards, not caters to diverse learning styles but also supports students to retain new information.

Encouraging Collaborative and Process-Oriented Learning

Several studies emphasize the role of MALL in fostering collaborative and process-based learning activities, specifically in writing and vocabulary improvement. Based on the research conducted by (Purwaningrum et al., 2024) and (Dwigustini et al., 2021) illustrates how mobile applications support the writing process from idea generation to revision through peer feedback and teacher interaction. Social media and chat platforms like WhatsApp enable real-time collaboration and discourse among students. These platforms allow learners to construct knowledge, share resources, and refine their language output based on ongoing feedback. Moreover, the use of these platforms supports collaborative learning which nurture students' critical thinking, creativity, and reflective abilities. These benefits make MALL an

effective tool not only for language practice, but also for cultivating 21st century skills, namely communication, cooperation, creativity, and critical thinking.

Increasing Students' Motivation and Engagement through Gamification

The final theme centers on the motivational engagement of MALL, especially through gamified elements. The evidence is the based-on studies conducted by (Suherman et al., 2024), (Wanda Dian Paramesti Fortuna Dewi et al., 2023), and (Ningsih et al., 2022) which highlight how applications, namely Nearpod and Duolingo use features such as quizzes, polls, boards, and game-based rewards, e.g., points, streaks, and levels to gain students' interest. These elements promote active participation and sustained attention, making the learning activities more enjoyable and less monotonous. Real-time feedback systems also play a crucial role in maintaining students' learning engagement since the feedback allows students to recognize their mistakes and self-correct immediately. Moreover, the visual and interactive design of MALL applications provide a user-friendly interface which can encourage students to study English without feeling fear of failure. To sum up, the use of gamification transforms passive learning into an engaging and dynamic process that supports continuous learning improvement.

RQ 2: What are the potential mobile device tools that could be used in the English learning and teaching process across educational levels in Indonesia?

The second research question, through this article were reviewed in terms of potential mobile device tools that utilized in the English learning and teaching process across educational levels in Indonesia. Th review were explained in Table 5 blow:

Table 5. Summary on the potential mobile device tools used in the studies reviewed:

No	Auricle /Study	Mobile Device Tools Used
1	(Dwigustini et al., 2021)	Various applications are used to provide interactive writing exercises, feedback mechanisms, and collaborative features that allow students to engage in peer review and editing. The use of mobile devices as the tools in learning enabled students to access writing resources and practice writing tasks anytime and anywhere
2	(Mutiaraningrum & Nugroho, 2021)	Smartphone applications such as Busuu, English Listening and Speaking, English Podcast, and other application like Hello English were utilized. The applications help students to practice English exercises by their own pace, feature user-friendly interfaces, and include translations in <i>Bahasa Indonesia</i> , making them accessible for students who are not fluent in English.
3	(Ningsih et al., 2022)	Teachers are reported using applications such as WhatsApp, Google Classroom, Edmodo, and Online Quizzes, as well as Web Browsers, to support language instruction. The study underscores the increasing integration of mobile technologies to promote flexibility, motivation, and learner autonomy in EFL education.
4	(Hasanah et al., 2022)	Smartphones as the core device are used for content access, integrated with Zoom for synchronous video streaming and class interaction. YouTube was used as a source of authentic video texts (e.g., <i>Loki</i> series), while WhatsApp facilitated group discussions and comprehension checks. These tools enabled multimodal access to materials, both in and outside class hours.
5	(Adijaya et al., 2023)	Smartphones, tablets, and laptops were used to support flexible and accessible learning experiences. Smartphones are particularly emphasized due to their affordability and the availability of various language learning applications like; Duolingo, Babbel, Memrise, Busuu, and also HelloTalk. Tablets and laptops are also mentioned as essential tools that enable students to access multimedia learning materials, complete assessments, and engage in interactive tasks.
6	(Wanda Dian Paramesti Fortuna Dewi et al., 2023)	Through Nearpod, students access materials anytime and anywhere which enhances their reading skills by providing them with diverse resources and opportunities for practice. The platform's ability to integrate various learning activities helps maintain student interest and motivation
7	(Abidin, 2023)	Memrise is a mobile-assisted language learning application that employs the gamification and spaced repetition in vocabulary acquisition. This application helps students to enhance the learning experiences because

	there are interactive exercises which enable students to retain new words.
8	(Purwaningrum et al., 2024) The mobile device tool utilized was Nearpod. Interactive slides, embedded videos, quizzes, "Draw It" activities, and collaborative boards facilitated a more dynamic and flexible learning experience. Students in the study reported that Nearpod made reading lessons more interesting and enjoyable compared to traditional methods, increasing their motivation and engagement.
9	(Rahmani, 2024) Duolingo, Grammarly, BBC Learning English, Memrise, and ELSA Speak, Google Translate and dictionaries such as Merriam-Webster and <i>Kamusku</i> were utilized. Students also use media platforms such as TED, YouTube and others, as well as social media apps like TikTok and Instagram, to enhance exposure and engagement with English. This diverse ecosystem of smartphone applications enables a flexible, personalized, and engaging learning environment.
10	(Suherman et al., 2024) Duolingo was utilized to support language learning through smartphones and tablets. Features like pronunciation training and vocabulary enrichment were frequently cited by participants as key motivators, along with the classroom ranking system that allowed them to compare progress with peers.

Based on the analysis of 10 relevant studies, smartphones are the most frequently utilized and emphasized mobile devices tools in MALL. Before of that, in 2008 to 2015 MALL already exist, most familiar with name mobile phone (Sipra & Ahmad, 2016). Both smartphone and mobile phone, the important point mobile learning is the level of mobility and comfort (Ali et al., 2024). As the same time, mobile device learning is the comparatively of occurrence (Chua et al., 2020). As mention by (Al Shihri et al., 2025) learners can nearly always access, because MALL apps rely on smartphone. They are widely used due to their portability, affordability, user-friendliness, and high accessibility among students across various educational levels in Indonesia. Duolingo, Memrise, Busuu, Babble, Hello Talk, Ello English, and BBC Learning English are becoming the most utilize smartphone applications by Indonesian students. These applications offer students interactive and personalized learning experiences through features like exercises, spaced repetition, audio input, real-time feedback, etc. which are highly effective for vocabulary acquisition, grammar practice, pronunciation, listening, and speaking development. MALL also can give positive impact for adult learners to improve their social standing, health, leisure activities, daily task etc. (Klimova, 2020).

In addition to those learning applications, smartphones also support the use of general-purpose applications and platforms that contribute to English learning. For example, communication tools like, WhatsApp, Zoom, and Google Classroom are used for synchronous and asynchronous discussions, classroom discussions, group projects, peer feedback, and comprehension checks. Social media platforms like Instagram, TikTok, and YouTube are employed to increase students' exposure to authentic language input and multimodal content, e.g., videos, captions, and native-speaker conversations. These tools help enhance students' engagement and motivation while accommodating different learning preferences. Moreover, smartphones enable access to supplementary learning tools, including Google Translate, Merriam-Webster Dictionary, *Kamusku*, and Grammarly, which assist students in overcoming language barriers and improving writing accuracy and comprehension.

DISCUSSION

The finding of this systematic literature review through MALL introduces a transformative effect in pedagogical innovation for English language education across different educational levels in Indonesia. Anchored in (Brown, 1994) notion that learning is an interactive process. The most prominent outcome is learner autonomy and self-regulation. The reviewed studies consistently demonstrated that learners become more responsible for their own learning progress, using mobile tools to plan, monitor, and evaluate. The mobile apps such as Duolingo, Memrise, and WhatsApp encourage students to take initiative in setting goals and managing their time, reflecting (Tomlinson, 1999) view of learning as a conscious, memory-based process. This transformation highlights the potential MALL to cultivate lifelong learning habits, particularly when learners are guided to use appropriate strategies. Moreover, tools like Nearpod, YouTube, and video-based tasks offered learners varied sensory input that supported vocabulary retention, comprehension, and real-life language use. The use of authentic materials, such as TV series with professional scenarios, heightened students' engagement and cultural awareness.

Additionally, MALL was effectively to facilitate collaborative writing, planning, and revising activities via platforms like WhatsApp and social media. These activities foster critical thinking, peer support, and community-building in language development

Another central point of the finding is the motivational impact of MALL through interactive gamified features. Learners responded positively to learning experiences that incorporated rewards, streaks, and engaging formats that mimic games. MALL applications embody the attributes identified by (Rajendran & Md Yunus, 2021): portability, interactivity, and context-sensitivity. Applications like Duolingo and Nearpod turned repetitive tasks into enjoyable challenges and promoted consistent participation. However, this study also notes that while most students were motivated by MALL, others needed more meaningful connection with the learning content to sustain engagement. Therefore, the effectiveness of each feature depends on thoughtful instruction design, learners' perspective, and support for digital literacy to ensure meaningful use of mobile device as the tools in language learning. The use of mobile devices tools can be variative, since the technology keeps evolving.

From ten relevant studies that the author provides in this article, collaborative learning via mobile platforms supports the constructive teaching goals outlined, where knowledge is co-constructed through interaction, feedback and reflection, (Munna & Kalam, 2021). Related to this, there are many devices that can be used to facilitate teaching and learning processes. Smartphones are the most widely used devices in MALL due to their affordability, portability, and access ability across educational levels in Indonesia. Each device has its own function, in supporting the range of language learning apps like Duolingo and Babbel, offering interactive features such as gamification and real-time feedback to engage students' vocabulary, grammar, and speaking skills. The smartphones also enable the use of communication tools like WhatsApp, Zoom, and social media platforms such as YouTube, Tiktok etc. for authentic language exposure and collaborative learning. While other devices such as laptop, tablet are used for formal settings. Therefore, smartphones remain the dominant for their flexibility and support for anytime and anywhere, promoting autonomy and continuous English language development.

The concept of MALL as a tool in English language learning has been a topic of interest in numerous fields of study, especially in receptive and productive vocabulary knowledge (Li & Hafner, 2022). Over the year, researcher have explored the use of MALL in English learning and teaching across educational levels in Indonesia. However, other studies explore the advantages of MALL potential to facilitate inclusion study for adult learners (Puebla et al., 2022). Through the potential MALL application apps, Duolingo is pervasive reach, and flexible functionality that have significant attention to gamification (Shortt et al., 2023). MALL also implement as a means to enhance ESL and EFL reading comprehension as mention by (Gutiérrez-Colón et al., 2023). It similar with other study, that explore MALL through ESL/EFL learners but they focus on the vocabulary learning (J. J. Lin & Lin, 2019). While (C. C. Lin et al., 2020) argue that MALL through reading development could be interpreted based on seven constituents of IT such as subject, object, tool, rules, division, community, and outcomes. These studies have highlight different focus to the use of MALL like for vocabulary acquisition, reading development, eldest learners, MALL apps explored previously. However, they have not limited their studies that only focus on one country, especially for finding the same research around their own country. For instance, (Zhang & Pérez-Paredes, 2024) addresses the MALL in English language learning can be better to understand how mobile dictionaries are used for academics, language instructors, and policymakers. While this is indeed an important of pedagogical approach offer by MALL and mobile device tools used. In contras the finding of the study is the to promote learners' autonomy and self-regulation, enhance language skills, encourage collaborative learning, and increase students' motivation.

After conducting a qualitative analysis, we found that smartphone is the most mobile device tools used in the process of learning instead laptop, Nearpod, etc. Previous studies have explored the impact of MALL through university students in technical vocabulary knowledge. The study showed the great retention and re-call of technical vocabulary over time (Koleini et al., 2024). As noted by (Hwang et al., 2024) MALL apps can enhance EFL learners speaking skills, it is useful for the EFL learners and educators in utilizing the MALL apps affordance for their interactive speaking class. The effectiveness of MALL is not limited to the classroom, as its flexibility the learners possible used it to learn anytime and anywhere. Because of Mobile-learnings flexibility and anytime, also anywhere functionality, MALL scholarship has recently tended to include the use of mobile device in informal learning environment (Karakaya & Bozkurt, 2022). In conclusion, while the previous research has highlighted various pedagogical potential of MALL, like vocabulary acquisition and reading development to adult education and informal learning environment. This study contributes further by emphasizing the critical role of MALL to foster learner

autonomy, language proficiency, collaborate learning within Indonesian context, where smartphone remain as the most utilized and accessible learning tools.

This study has several important implications for English language teaching in Indonesian settings. Firstly, it shows that MALL can be a powerful tool in supporting learners' autonomy, language skills development, and motivation. Both teacher and schools can consider use mobile application such as Duolingo, WhatsApp, Nearpod etc. to make the learning process more engaging. This study also highlights the crucial of using multimodal and real-life material to improve students' English skills. For curriculum design and policymaker, this study suggests the need to integrate the MALL more systematically in the classroom learning environment. Finally, need to training for educators is essential to help them use MALL effectively, and for the schools should work to make sure the equal access to mobile device and internet connection. Even though this study provides useful insights, it also has some limitation. The article only focused on studies from Indonesia, so the result may not apply to other countries with different technological development and educational system. This article only taken from one web side, it is Google Scholar that written in English, which means that some relevant studies in other databased and language may have been exclude. The review covered a limitation of time range it start from (2019 to 2025), which may have excluded the older research. Most of the study just focus on secondary and university levels, with little attention for adult and primary schools' learners. Lastly, this study applied thematic analysis without including statistical technique.

To expand of the current findings, the future research should explore MALL across more different educational settings or age of group, like primary school and adult learners. It is also crucial to examining MALL for long-term effect on students' motivation. Study technique and language skills. Additionally, future studies could examine the specific features like peer collaboration, real-time feedback, gamification, and how they affect learning outcomes. Research that conducted in rural area or low-resource would also yield crucial information about the challenges in adopting MALL for various context. Lastly, applied mix-method or experimental approach may provide more thorough knowledge of how MALL support significant and efficient for language learning.

CONCLUSION

This systematic literature review reveals that MALL (Mobile-Assisted Language Learning) holds substantial pedagogical value to support the English language education in Indonesian context. Its capacity positively promotes the learner's autonomy, to facilitate multimodal and authentic material or input, sustain motivation and encourage collaboration as the transformative approach is aligned with the demands of education in 21st century. When MALL is thoughtfully implemented, it not only supports language development but also can develop essential skills such as self-regulation, communication, and critical thinking. To maximize the impact, the teacher or educators should be trained in integrating MALL effectively. Additionally, the school also need to ensure the equitable access to mobile devices and dependable internet connection. Future studies should explore more closely about MALL for the long-term effects, and evaluate how features like gamification or peer interaction influence the learning and teaching process. By further developing and aligning with pedagogical best practices, MALL can be a robust and inclusive tool for improving language education

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