

Integrating Mobile-Assisted Language Learning (MALL) in Modern Classrooms: A Theoretical Review.

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ABSTRACT

This theoretical review examines the integration of Mobile-Assisted Language Learning (MALL) into modern classrooms. It discusses the concept, development, characteristics, theoretical foundations, educational benefits, integration strategies, and implementation challenges of MALL. The study employs a descriptive-analytical approach based on the critical analysis and synthesis of relevant academic literature.

The findings indicate that MALL can support language skills, motivation, interaction, personalization, and learner autonomy. Nevertheless, its effectiveness depends on appropriate task design, teacher competence, learner readiness, accessibility, and institutional support. The review concludes that MALL should be integrated as a purposeful pedagogical approach that complements teacher-led instruction while addressing distraction, inequality, privacy, and ethical concerns.

Introduction

The rapid development of mobile technologies has significantly influenced contemporary education, particularly language teaching and learning. Smartphones and tablets provide learners with immediate access to authentic materials, multimedia content, educational applications, and communication platforms. Consequently, Mobile-Assisted Language Learning (MALL) has emerged as an important approach that extends language learning beyond the physical and temporal boundaries of the traditional classroom (Li, 2023).

MALL offers several educational advantages, including flexibility, learner autonomy, interaction, collaboration, and personalized learning. Mobile applications allow students to practise vocabulary, pronunciation, listening, speaking, reading, and writing according to their individual needs and learning pace. Research indicates that the effective use of mobile devices can improve language-learning outcomes and provide opportunities for situated and

contextualized learning (Li, Fan, & Wang, 2022). Furthermore, mobile technologies can support self-regulated learning by enabling learners to set goals, monitor their progress, and receive immediate feedback (Viberg et al., 2020).

However, the availability of mobile devices does not automatically guarantee successful learning. The effectiveness of MALL depends on purposeful pedagogical design, teachers' technological competence, students' readiness, institutional support, internet accessibility, and the suitability of mobile activities for specific learning objectives. Potential challenges—including distraction, unequal access to technology, privacy concerns, excessive screen time, and the absence of clear instructional guidance—must also be addressed. Therefore, mobile devices should be integrated as pedagogical tools rather than used merely because they are technologically available (Paredes et al., 2022).

Accordingly, this theoretical review examines the integration of MALL into modern classrooms by discussing its conceptual foundations, educational benefits, relevant learning theories, implementation challenges, and pedagogical implications. It aims to develop a clearer understanding of how mobile technologies can complement classroom instruction and contribute to flexible, interactive, and learner-centred language education.

Statement of the Problem

Despite the widespread availability of smartphones and language-learning applications, the effective integration of Mobile-Assisted Language Learning (MALL) into modern classrooms remains challenging. Mobile devices are frequently used informally by students, yet their classroom use is not always guided by clear pedagogical objectives or supported by appropriate instructional strategies. Consequently, the availability of mobile technology does not necessarily lead to meaningful language-learning outcomes.

Existing studies demonstrate the potential of MALL to improve language skills, motivation, interaction, and learner autonomy. However, its effectiveness varies according to the learning context, task design, teacher competence, students' readiness, digital accessibility, and institutional support. In addition, mobile-device use may cause distraction, unequal participation, privacy concerns, and reduced face-to-face interaction when it is excessive or poorly managed. UNESCO therefore emphasizes that educational technology should be employed only when it clearly supports learning outcomes ([UNESCO, 2023](#)).

The central problem addressed by this study is the absence of a sufficiently coherent theoretical understanding of how MALL can be pedagogically integrated into modern language classrooms while minimizing its limitations. Therefore, this review seeks to synthesize the major theories, benefits, challenges, and instructional principles associated with MALL and to identify the conditions necessary for its effective and responsible classroom integration ([Li, Fan, & Wang, 2022](#); [Stockwell, 2022](#)).

Research Objectives

General Objective

To provide a theoretical review of Mobile-Assisted Language Learning (MALL) and examine its effective integration into modern language classrooms.

Specific Objectives

1. To clarify the concept, characteristics, and theoretical foundations of MALL.
2. To identify the major mobile technologies and applications used in language education.
3. To examine the role of MALL in developing learners' language skills, motivation, interaction, and autonomy.
4. To explore the pedagogical strategies required for integrating mobile technologies into classroom instruction.
5. To identify the technological, educational, social, and ethical challenges associated with MALL.
6. To examine the roles of teachers and learners in mobile-supported language-learning environments.
7. To propose theoretical guidelines for the effective, equitable, and responsible integration of MALL into modern classrooms.

Significance of the Study

Theoretical Significance

This study contributes to the literature on technology-enhanced language education by presenting an organized theoretical review of Mobile-Assisted Language Learning (MALL). It brings together relevant concepts, learning theories, benefits, and challenges to clarify how mobile technologies can support language acquisition. It may also provide a theoretical foundation for future empirical studies on MALL in different educational contexts.

Practical Significance

The study may help language teachers select appropriate mobile applications and design activities that support vocabulary acquisition, communication, motivation, engagement, and learner autonomy. Research indicates that well-designed mobile-assisted activities can positively influence language achievement and students' attitudes toward learning.

Definition of Key Terms**1. Mobile-Assisted Language Learning (MALL)**

MALL refers to the use of smartphones, tablets, and other portable technologies to support language learning. It enables learners to access resources, practise language skills, communicate, and collaborate across formal and informal learning settings ([Kukulska-Hulme, 2018](#)).

2. Mobile Learning (M-Learning)

Mobile learning is an educational practice in which learners use mobile devices to access and interact with learning materials anytime and anywhere, thereby providing flexible and personalized learning opportunities ([UNESCO](#)).

3. Mobile Devices

Mobile devices are portable digital tools, such as smartphones and tablets, that enable users to access information, educational applications, multimedia resources, and online communication services. In this study, the term refers specifically to devices used for language teaching and learning.

4. Language Learning

Language learning is the process of acquiring and developing the knowledge and skills necessary to understand and use a language. It includes the development of listening, speaking, reading, writing, vocabulary, grammar, and pronunciation.

5. Learner Autonomy

Learner autonomy refers to learners' ability to take responsibility for their own learning by determining objectives, selecting methods and materials, monitoring progress, and evaluating outcomes ([Holec, 1979](#)).

6. Modern Classrooms

Modern classrooms are learner-centred educational environments that combine face-to-face instruction with digital technologies, interactive activities, collaboration, and flexible access to learning resource

7. MALL Integration

MALL integration refers to the purposeful incorporation of mobile devices, applications, and resources into language curricula and classroom activities to achieve specific learning objectives. It involves aligning technology with teaching methods, learners' needs, and assessment practices.

Research Methodology

This study adopts the descriptive-analytical approach and is conducted as a theoretical narrative literature review.

This methodology is appropriate because the study aims to describe, interpret, critically analyse, and synthesize existing knowledge concerning the integration of Mobile-Assisted Language Learning (MALL) into modern classrooms rather than collect primary field data. Literature reviews can function as an independent research methodology by integrating previous findings, identifying theoretical patterns, and revealing gaps in knowledge.

Relevant literature will be collected from academic databases and scholarly platforms, including Scopus, Web of Science, ERIC, Google Scholar, ScienceDirect, SpringerLink, and Cambridge Core. Search terms will include *Mobile-Assisted Language Learning, MALL, mobile learning, language education, mobile applications, classroom integration, and learner autonomy*.

Peer-reviewed journal articles, academic books, conference papers, systematic reviews, and reports from reputable educational organizations will be considered. Sources will be selected according to their relevance to the study objectives, academic credibility, and contribution to the theoretical understanding of MALL. Irrelevant, duplicated, non-academic, or insufficiently documented materials will be excluded.

The selected literature will be analysed thematically and organized into major areas: MALL concepts and theories, mobile tools, language-learning benefits, classroom integration strategies, teacher and learner roles, and implementation challenges. The findings will then be compared and critically synthesized to identify agreements, differences, research gaps, and practical implications. Because the research is entirely theoretical, it does not employ participants, questionnaires, experiments, or statistical analysis.

Previous Studies

A number of previous studies have examined Mobile-Assisted Language Learning (MALL) from different theoretical and practical perspectives.

Peng, Jager, and Lowie (2021) conducted a narrative review and meta-analysis of MALL research on second-language skills. The researchers examined 17 studies published between 2008 and 2017, representing 22 effect sizes. The findings revealed a large positive effect of mobile technologies on language learning. The effectiveness of MALL was influenced by the type of learning activities, mode of content delivery, and duration of the intervention. However, the researchers warned that novelty and information redundancy could influence learning outcomes (Peng, Jager, & Lowie, 2021).

Hou and Aryadoust (2021) reviewed the methodological quality of quantitative MALL research. The study evaluated research design, sampling, measurement, data analysis, and reporting practices in previous quantitative studies. It found several methodological weaknesses that could limit the reliability and generalizability of MALL findings. The study emphasized the need for stronger theoretical foundations, appropriate research designs, reliable instruments, and transparent statistical reporting (Hou & Aryadoust, 2021).

Burston and Giannakou (2022) conducted a comprehensive meta-analysis of experimental MALL studies published between 1994 and 2019. From a database of 1,144 references, only 84 studies met the required methodological criteria. The results demonstrated generally large positive effects on language learning. Nevertheless, considerable heterogeneity and publication bias were identified, indicating that positive results should be interpreted cautiously ([Burston & Giannakou, 2022](#)).

Metruk (2024) reviewed 15 empirical studies published between 2015 and 2022 on mobile-assisted pronunciation instruction using the PRISMA framework. The findings indicated that mobile learning generally improved second-language pronunciation and that learners expressed positive attitudes toward using mobile devices. Smartphones were the most frequently employed devices, while various applications and digital platforms were used for pronunciation practice ([Metruk, 2024](#)).

Commentary on Previous Studies

Previous studies generally confirm that MALL can improve language skills, motivation, autonomy, interaction, and access to learning materials. Nevertheless, they also reveal limitations related to research quality, unequal access, technological distraction, intervention duration, and insufficient alignment between technology and pedagogy. While several studies focused on specific skills or particular educational contexts, the current study provides a broader theoretical review of MALL integration into modern classrooms. It combines theoretical foundations,

pedagogical benefits, classroom strategies, teacher and learner roles, and implementation challenges within a unified analytical framework.

First Section: Conceptual and Theoretical Foundations of Mobile-Assisted Language Learning

1. The Concept of Mobile-Assisted Language Learning

Mobile-Assisted Language Learning (MALL) represents a branch of technology-enhanced language education that uses smartphones, tablets, and other portable digital technologies to support language teaching and learning. It is particularly associated with learning situations in which portability, connectivity, personalization, and situated practice provide educational advantages. MALL allows learners to access language materials, interact with teachers and peers, create content, and practise language skills inside and outside formal classrooms ([Kukulska-Hulme, 2018](#)).

MALL is related to Computer-Assisted Language Learning (CALL), but it is not merely a smaller version of computer-based learning. CALL was traditionally associated with fixed desktop computers and designated learning environments, whereas MALL emphasizes the mobility of learners, devices, content, and learning contexts. It therefore enables language learning to occur across different times and locations and supports stronger connections between classroom instruction and learners' daily experiences (Stockwell, 2022).

2. The Development of MALL

The emergence of MALL is connected to the historical development of CALL and mobile communication technologies. Early forms of mobile language learning relied on portable audio players, personal digital assistants, text messages, and basic mobile phones. These tools were mainly used to deliver vocabulary lists, short exercises, reminders, and audio materials. Therefore, early MALL practices were largely based on the transmission of educational content from the teacher or learning system to the learner.

As smartphones and wireless internet services developed, mobile learning gradually shifted from simple content delivery towards interaction, collaboration, and learner-generated content. Contemporary learners can record speech, participate in video conversations, receive automated feedback, consult electronic dictionaries, access authentic media, and communicate with speakers of the target language. This development has transformed MALL from a supplementary delivery method into an interactive learning environment ([Kukulska-Hulme & Shield, 2008](#)).

The development of cloud computing, artificial intelligence, speech recognition, augmented reality, social networking, and learning analytics has further expanded MALL. Modern mobile applications can provide personalized recommendations, immediate corrective feedback, adaptive activities, and progress monitoring. Nevertheless, technological development must remain subordinate to educational objectives. Effective integration requires moving from technology-centred practices towards pedagogy-centred practices in which tools are selected according to their contribution to particular language-learning outcomes (Stockwell, 2022).

3. Characteristics of MALL

MALL is distinguished by several interconnected characteristics. The first is portability, as mobile devices can be carried and used across different settings. The second is accessibility, because learners can access dictionaries, applications, videos, podcasts, electronic books, and interactive exercises whenever internet or stored content is available. These characteristics allow language learning to continue beyond scheduled classroom periods (UNESCO, 2013).

A third characteristic is personalization. Learners can select content, difficulty levels, learning pace, and forms of practice according to their individual needs. Mobile applications can also provide adaptive activities and personalized feedback based on learners' previous performance. A fourth characteristic is interactivity, as mobile devices support communication between learners, teachers, applications, and digital content through text, audio, video, and other multimedia formats.

Another important characteristic is continuity between formal and informal learning. Mobile devices enable students to move between teacher-directed classroom activities and independent learning outside the classroom. A classroom lesson can therefore continue through online discussions, digital assignments, vocabulary revision, or collaborative projects. This continuity may increase exposure to the target language and promote lifelong learning. Finally, MALL is multimodal and collaborative. Mobile devices combine written text, images, sound, animation, and video within a single environment. They also allow learners to cooperate through messaging applications, shared documents, discussion groups, and peer-feedback activities. However, these characteristics become educationally valuable only when they are incorporated into well-designed tasks.

4. Mobile Tools and Language Skills

A variety of mobile tools may be employed in language education. These include specialized language-learning applications, digital dictionaries, flashcard systems, podcasts, video platforms, electronic books, social networking applications, messaging services, virtual classrooms, speech-recognition programs, and generative artificial-intelligence tools. Teachers may also use built-in smartphone functions, including cameras, voice recorders, location services, and note-taking tools.

For listening development, students can use podcasts, audiobooks, recorded conversations, and captioned videos. Mobile tools allow learners to repeat materials, adjust playback speed, and practise with different accents. For speaking and pronunciation, voice-recording and speech-recognition applications offer opportunities to produce language, compare pronunciation, and receive feedback. Evidence suggests that mobile learning generally has a beneficial effect on second-language pronunciation and that learners commonly display positive attitudes towards mobile pronunciation practice ([Metruk, 2024](#)).

Mobile devices can support reading by providing immediate access to electronic texts, dictionaries, annotations, and authentic online content. They can also facilitate writing through digital note-taking, collaborative documents, messaging, blogs, and peer feedback. Vocabulary applications employ flashcards, multimedia presentations, spaced repetition, games, and quizzes to reinforce retention. Nevertheless, the educational quality of these applications differs considerably, which makes teacher evaluation and guidance essential.

5. Theoretical Foundations of MALL

5.1 Constructivist Learning Theory

Constructivism views learning as an active process through which learners construct knowledge by interacting with information, experiences, and their surrounding environment. Within MALL, students do not simply receive linguistic content; they explore resources, solve problems, create digital products, and use language to complete meaningful tasks. Mobile devices support this process by providing access to multiple sources and allowing learners to connect new knowledge with authentic experiences.

5.2 Sociocultural Theory

Sociocultural theory emphasizes that learning develops through social interaction, communication, and participation in culturally meaningful activities. From this perspective, language learning is supported when learners interact with teachers, peers, and more capable language users. Messaging platforms, discussion groups,

collaborative documents, and mobile peer-feedback activities can create opportunities for scaffolding, negotiation of meaning, and collaborative knowledge construction.

5.3 Situated Learning Theory

Situated learning theory proposes that knowledge is more meaningful when acquired within the social and physical contexts in which it will be used. MALL enables learners to connect classroom language with authentic locations and activities. Research examining MALL through situated learning theory indicates that mobile technologies can facilitate participation in communities of practice and support contextualized language learning ([Li, Fan, & Wang, 2022](#)).

5.4 Self-Regulated Learning

Self-regulated learning explains how learners establish goals, select strategies, manage time, monitor progress, and evaluate their performance. MALL provides flexible access to resources and allows learners to decide when, where, and how they will practise. Mobile applications can support self-regulation through progress indicators, reminders, personalized feedback, and learning analytics. However, flexibility may be ineffective when learners lack motivation, digital competence, or appropriate learning strategies.

6. A Theoretical View of Effective MALL Integration

The theoretical foundations discussed above demonstrate that MALL should be understood as a complete learning environment rather than a collection of applications. Effective integration requires alignment among learning objectives, language content, teaching strategies, mobile tools, learner characteristics, and assessment. The design process should consider the wider learning environment, the digital tools employed, and the tasks through which learners interact with those tools (Stockwell, 2022).

Teachers remain essential in selecting resources, designing tasks, guiding learners, monitoring participation, and evaluating outcomes. At the same time, learners assume greater responsibility for managing their learning and using mobile technologies ethically. Accordingly, MALL does not eliminate classroom teaching or reduce the teacher's role. Instead, it redistributes learning across classroom and out-of-class contexts while creating new forms of interaction, practice, and feedback.

In conclusion, MALL developed from the simple delivery of language materials into an interactive, personalized, collaborative, and context-sensitive form of learning. Its educational value can be explained through constructivist,

sociocultural, situated, self-regulated, connectivist, motivational, and technology-acceptance perspectives. These foundations indicate that successful MALL integration depends less on the novelty of mobile devices and more on the pedagogical quality of the activities in which they are used.

Second Section: Integrating MALL into Modern Classrooms

1. The Concept of MALL Integration

Integrating Mobile-Assisted Language Learning into modern classrooms means incorporating mobile devices, applications, and digital resources into language instruction in a purposeful and systematic manner. This integration should connect technology with curriculum objectives, teaching strategies, learning activities, and assessment rather than treating mobile-device use as an independent or recreational activity.

Effective integration begins with identifying the intended language-learning outcome and then selecting the most appropriate mobile tool. Therefore, teachers should not begin with a particular application and subsequently search for a way to use it. Instead, they should first determine whether students need to improve vocabulary, pronunciation, communication, reading comprehension, writing, or another skill and then select technology that supports that objective. MALL design involves multiple levels, including the learning environment, digital tools, learning tasks, and assessment procedures (Stockwell, 2022).

MALL can be integrated through three main models. In the supplementary model, mobile activities reinforce classroom learning through homework, revision, and additional practice. In the blended model, classroom teaching and mobile learning are deliberately combined as connected components of the course. In the seamless model, learning moves continuously between classroom and out-of-class settings, allowing students to apply language knowledge in authentic contexts.

2. Strategies for Classroom Integration

2.1 Mobile-Assisted Task-Based Learning

Task-based integration requires learners to use mobile devices to complete meaningful activities with clear communicative outcomes. Students may record interviews, create digital stories, produce videos, participate in collaborative discussions, or solve real-life problems using the target language. In such activities, the mobile device serves as a means of completing the task rather than becoming the objective itself.

Mobile-assisted tasks should include preparation, implementation, and reflection. Before the task, the teacher introduces its purpose, relevant language, instructions, and assessment criteria. During the task, learners use mobile tools to communicate, collect information, and produce language. After the task, the teacher provides feedback and encourages students to evaluate their learning. Research indicates that mobile-assisted task-based activities can positively influence vocabulary achievement and learners' attitudes ([Jedi-Sari-Biglar & Liman-Kaban, 2023](#)).

2.2 Collaborative Mobile Learning

Mobile devices can facilitate collaboration through messaging applications, discussion groups, shared documents, digital boards, and peer-feedback platforms. Students can jointly prepare presentations, review one another's writing, exchange voice recordings, and participate in group problem-solving. These activities increase opportunities for meaningful communication and negotiation of meaning.

Collaboration should be carefully structured. The teacher needs to establish group roles, timelines, participation requirements, and rules for respectful communication. Without such organization, stronger students may dominate the activity while other learners participate minimally. Consequently, teachers should evaluate individual contributions as well as the final group product.

2.3 Flipped and Blended Learning

In a flipped classroom, students use mobile devices to study instructional content before attending class. They may watch a short video, listen to a podcast, read an electronic text, or complete an online quiz. Classroom time can then be dedicated to discussion, practice, problem-solving, and communicative activities.

The blended approach combines face-to-face teaching with mobile-supported activities before, during, and after lessons. For example, students may preview vocabulary through an application, practise it in classroom conversations, and later reinforce it through digital flashcards. This sequence creates continuity between instruction and independent practice while allowing teachers to use classroom time for activities requiring direct interaction.

3. The Role of the Teacher

The teacher's role remains central in mobile-supported classrooms. MALL changes this role from being primarily a provider of information to becoming a designer, facilitator, guide, evaluator, and digital mentor. Teachers must determine when mobile technology adds educational value and when direct explanation, printed materials, or face-to-face interaction are more appropriate.

Teachers are responsible for evaluating applications according to their accuracy, accessibility, usability, privacy practices, cost, and suitability for learners' ages and proficiency levels. They must also verify whether automated feedback is linguistically reliable. Attractive design or commercial popularity does not necessarily indicate educational quality.

Another important responsibility is scaffolding. Students may know how to operate smartphones socially but may lack the skills required to use them for academic learning. Teachers should explain how to select trustworthy resources, organize digital materials, communicate appropriately, protect personal data, and evaluate automated feedback. Learner training is essential because even independent learners may encounter difficulty in making appropriate decisions about mobile learning ([Stockwell, 2022](#)).

technologies.

4. The Role of the Learner

MALL places learners in a more active and responsible position. Students are expected to participate in activities, manage their time, monitor their progress, communicate with others, and select appropriate learning strategies. They become producers of digital content as well as consumers of information.

Learner autonomy, however, should not be interpreted as learning without guidance. Some students may lack self-regulation, become distracted, or select resources that do not match their needs. Therefore, autonomy should be developed gradually through goal setting, structured choices, learning schedules, progress monitoring, and reflective activities.

Students also require digital and information literacy. They should be able to assess the credibility of online content, distinguish educational information from advertising, cite digital sources, protect passwords and personal information, and recognize biased or inaccurate automated outputs.

5. Educational Benefits of MALL Integration

One of the principal advantages of MALL is the expansion of learning beyond classroom time. Learners can practise briefly but repeatedly throughout the day, access materials whenever necessary, and use periods that might otherwise be unavailable for learning. This flexibility can increase exposure to the target language and accommodate different learning schedules.

MALL also supports the development of language skills through multimodal input and production. Learners can combine texts, images, recordings, and videos, which may help them understand language through multiple channels. Research demonstrates positive effects on vocabulary acquisition, pronunciation, listening, speaking, and other language-learning outcomes. For example, a systematic review found an overall beneficial effect of mobile learning on second-language pronunciation and generally positive learner attitudes ([Metruk, 2024](#)).

Another benefit is immediate feedback. Digital quizzes, speech-recognition systems, and interactive exercises can inform learners about their performance shortly after completing a task. Immediate feedback may help students recognize errors, revise their responses, and monitor progress. Teachers can also use digital results to identify common difficulties and adjust subsequent instruction.

6. Assessment in MALL Environments

Assessment should measure language development rather than technical ability alone. Mobile quizzes may be appropriate for vocabulary or grammar checks, while speaking, writing, collaboration, and authentic communication require performance-based assessment. Digital portfolios can document recordings, written work, projects, reflections, and progress over time.

Assessment criteria should be explained before an activity begins. Rubrics may address linguistic accuracy, fluency, vocabulary, organization, task completion, collaboration, and responsible use of technology. Teachers should also provide alternatives when technical problems prevent students from completing a mobile assignment.

7. Requirements for Effective Integration

Effective MALL integration requires several interrelated conditions:

1. Mobile activities must be aligned with clear language-learning outcomes.
2. Applications must be accurate, accessible, secure, and appropriate for learners.
3. Teachers and students must receive technological and pedagogical training.
4. Institutions must provide infrastructure, technical support, and clear policies.
5. Activities must balance mobile practice with face-to-face communication.
6. Learners' privacy, equality, safety, and well-being must be protected.
7. Assessment must focus on language learning and provide fair alternatives.

These requirements demonstrate that successful integration depends on the interaction among pedagogy, technology, learners, teachers, and institutional context. Mobile devices should be used only when they offer a clear educational advantage and should never be allowed to replace the human relationships on which effective teaching and learning depend.

Findings

The theoretical review reached the following findings:

1. MALL expands language learning beyond classroom boundaries by providing flexible access to authentic and multimedia materials.
2. Mobile applications can support vocabulary, pronunciation, listening, speaking, reading, and writing while increasing learners' motivation and autonomy.
3. The educational effectiveness of MALL depends on pedagogical task design, teacher guidance, learner readiness, and institutional support—not merely on the availability of mobile devices.
4. Major challenges include distraction, digital inequality, weak infrastructure, privacy concerns, excessive screen use, and insufficient teacher training.
5. MALL is most effective when it complements face-to-face teaching and connects formal classroom instruction with authentic out-of-class learning. Previous reviews similarly report positive language outcomes while warning about methodological variation and implementation limitations .

Recommendations

1. Align mobile activities with clear language-learning objectives.
2. Provide teachers and learners with appropriate digital training.
3. Select accessible, secure, and pedagogically suitable applications.
4. Establish classroom rules to limit distraction and protect privacy.
5. Provide alternatives for students who lack suitable devices or internet access.
6. Balance mobile learning with direct communication and teacher-led instruction.
7. Conduct further empirical research across different educational and cultural contexts.

Conclusion

MALL offers valuable opportunities to make language learning more flexible, interactive, personalized, and connected to real-life communication. However, technology alone cannot ensure effective learning. Successful integration requires thoughtful pedagogical design, qualified teachers, prepared learners, supportive institutions, and responsible technology use. Therefore, mobile devices should complement—not replace—classroom interaction and teacher guidance.

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