The Role of Mobile-Assisted Language Learning (MALL) in EFL Instruction: A Mixed-Methods Analysis

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Abstract

Mobile-Assisted Language Learning (MALL) has transformed the teaching of English as a Foreign Language (EFL) by offering learners continuous access to language resources and interactive educational settings. This research adopts a mixed-methods approach to examine how MALL influences EFL learners' engagement and proficiency. The qualitative analysis gathers instructors' perspectives on MALL implementation through semi-structured interviews, while the quantitative segment evaluates learners' progress by comparing pre-test and post-test results. The findings indicate that educators recognize MALL's role in promoting autonomous learning and motivation, though challenges such as varying levels of digital literacy remain. Statistical analysis shows notable gains in vocabulary acquisition and listening skills among learners. This study highlights MALL's effectiveness as a supplement to conventional EFL instruction and proposes teaching strategies to optimize its advantages. It also explores the implications for educators, policymakers, and researchers.

Keywords

MALL, EFL Instruction, Vocabulary, Language Acquisition, Digital Learning Tools.

Introduction

The rapid advancement of mobile technology has significantly influenced language education, leading to the emergence of MALL that provides learners with access to a variety of language learning tools such as applications, multimedia content, and interactive communication platforms. The integration of these mobile-based tools facilitates engagement with language learning beyond traditional classroom settings, allowing students to practice

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their skills in diverse contexts. The portability and ubiquity of mobile devices enable language learners to engage with authentic materials, receive instant feedback, and participate in collaborative language activities, fostering an environment conducive to self-regulated learning (Burston, 2014).

Over the past decade, numerous studies have explored the role of MALL in EFL instruction, emphasizing its potential to enhance students' motivation, accessibility to language learning resources, and overall learning outcomes. Research indicates that mobile technologies provide opportunities for personalized learning experiences, enabling learners to tailor their language acquisition processes according to their needs and proficiency levels (Stockwell & Hubbard, 2013). However, despite these promising benefits, the integration of MALL into formal education faces several challenges. These include disparities in digital literacy among students and instructors, technological distractions, and the need for structured pedagogical approaches that effectively incorporate mobile learning strategies. Educators must balance the advantages of mobile learning with considerations related to curriculum design, institutional support, and learners' ability to navigate digital platforms effectively (Kukulska-Hulme & Shield, 2008).

This study aims to examine the role of MALL in EFL instruction using a mixed-methods approach, exploring both instructors' perceptions and students' language proficiency development. The study is guided by the following research questions:

- 1. How do EFL instructors perceive the effectiveness and challenges of MALL in language instruction?
- 2. What is the impact of MALL on EFL learners' vocabulary and listening comprehension improvement?

By integrating qualitative insights from instructors and quantitative performance data from learners, this study seeks to provide a comprehensive understanding of the benefits and limitations of MALL in EFL contexts. The findings will contribute to the ongoing discourse on mobile language learning by identifying key pedagogical strategies for optimizing MALL implementation, addressing potential barriers, and exploring its implications for future language education frameworks. As MALL continues to evolve alongside technological advancements, it is crucial to assess its effectiveness systematically and develop evidence-based approaches that maximize its potential while mitigating its limitations.

Literature Review

MALL is rooted in several key educational theories, including constructivist learning, sociocultural theory, and self-regulated learning. Constructivist learning, as described by Vygotsky (1978), highlights the importance of interaction and meaning-making, which MALL facilitates through real-world activities and social communication tools (Kukulska-Hulme & Shield, 2008). This perspective aligns with the notion that learners actively build knowledge through engagement with their surroundings. By utilizing mobile applications and digital resources, EFL students can immerse themselves in interactive learning experiences, reinforcing their understanding and retention of language structures (Sung, Chang, & Yang, 2015).

Sociocultural theory also underscores the role of interaction in language learning, particularly in collaborative learning environments. According to Swain (2000), language acquisition is fostered through social exchanges that drive cognitive growth. MALL supports this process by enabling learners to participate in peer discussions, virtual exchanges, and group projects via mobile applications (Kessler, 2018). Research suggests that mobile-supported collaborative tasks enhance language learning by allowing students to negotiate meaning and receive immediate corrective feedback (Zou, Huang, & Xie, 2015).

Moreover, self-regulated learning theory suggests that MALL encourages learner autonomy and personalized education. Zimmerman (2002) argues that self-regulated learning involves goal-setting, progress monitoring, and self-reflection, all of which can be facilitated through mobile technology. Language learning apps such as Duolingo and Memrise integrate gamified elements that keep learners engaged while tracking their progress (Viberg & Grönlund, 2013). These digital tools cater to individual learning preferences by adjusting content based on users' proficiency levels (Hwang & Fu, 2019).

Several empirical studies have explored MALL's effectiveness in EFL instruction. Burston (2014) conducted a meta-analysis of 291 studies and found that mobile applications significantly improve learners' vocabulary retention and pronunciation skills. Similarly, Stockwell and Hubbard (2013) reported that MALL enhances adaptive learning by offering immediate feedback and personalized exercises that address individual learning needs. These findings indicate that MALL contributes to language acquisition by targeting learners' specific challenges and reinforcing knowledge through repeated exposure.

Additionally, research by Viberg and Grönlund (2013) emphasized MALL's role in enhancing listening comprehension. Their study demonstrated that students who engaged in

mobile-assisted listening tasks outperformed those who relied solely on traditional instruction in comprehension assessments. Mobile learning applications provided repeated exposure to authentic listening materials, helping learners develop phonetic awareness and improve overall listening proficiency (Hwang & Fu, 2019).

Despite these benefits, challenges remain. Kukulska-Hulme and Shield (2008) pointed out that technological distractions, such as notifications from social media and gaming apps, can reduce learning effectiveness. Furthermore, differences in digital literacy among learners may limit MALL's success, highlighting the need for educators to offer adequate training and support (Kessler, 2018). These challenges indicate that a balanced approach is necessary for effective MALL integration, ensuring its advantages outweigh potential obstacles.

Research Methodology

This study employs a mixed-methods research design, combining qualitative and quantitative data collection techniques to comprehensively assess the impact of MALL on EFL instruction. A mixed-methods approach is particularly suitable for educational research as it allows for triangulation, enhancing the validity and reliability of the findings (Creswell & Plano Clark, 2018). By incorporating both qualitative and quantitative perspectives, the study provides a holistic understanding of MALL's effectiveness from the viewpoints of both instructors and learners.

For the qualitative aspect, semi-structured interviews were conducted with 15 EFL instructors from different institutions to explore their perspectives, experiences, and challenges related to MALL integration. This interview format ensured consistency while allowing flexibility in responses (Merriam & Tisdell, 2016). All interviews were recorded, transcribed, and subjected to thematic analysis to identify recurring patterns and key themes.

The quantitative section of the study adopted a quasi-experimental design, utilizing a pre-test and post-test model to measure the effects of MALL on learners' vocabulary acquisition and listening comprehension. The study involved 100 EFL learners, who were divided into two groups: a control group that received traditional instruction and an experimental group that engaged in MALL-supported learning. Pre-test and post-test assessments were conducted for both groups, and statistical analyses, including mean, standard deviation, and t-tests, were performed to evaluate performance differences (Field, 2018). These statistical methods were chosen to determine whether the improvements observed in the experimental group were statistically significant when compared to the control group.

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Strict adherence to ethical guidelines was maintained throughout the research process. Participants provided informed consent, and their identities were kept confidential. The study complied with ethical standards for educational research, ensuring voluntary participation and the right to withdraw at any stage (Bryman, 2016). By integrating both qualitative and quantitative methodologies, this research seeks to provide robust empirical evidence on the effectiveness of MALL in EFL instruction, contributing to theoretical discussions and practical applications in language education.

Findings and Discussion

For Instructor Perceptions of MALL

The qualitative analysis of instructor interviews revealed that the majority of instructors perceive MALL as a valuable tool for enhancing student engagement, motivation, and accessibility to learning resources. Many instructors highlighted the role of MALL in fostering autonomous learning, as mobile devices allow students to engage with language materials outside the classroom at their own pace (Kukulska-Hulme & Viberg, 2018). This autonomy enables students to reinforce classroom learning through supplementary activities such as vocabulary exercises, pronunciation drills, and interactive listening tasks, which, according to Lai and Zheng (2018), contribute to improved language retention and performance.

Moreover, instructors acknowledged that MALL facilitates differentiated instruction by allowing students to access personalized learning resources tailored to their proficiency levels and learning preferences (Stockwell, 2013). Through mobile applications and digital platforms, learners can practice language skills in a way that suits their individual needs, an approach supported by self-regulated learning theory (Zimmerman, 2002). Additionally, instructors noted that MALL provides immediate feedback on exercises, enabling students to identify and correct their mistakes in real time, which aligns with findings from Viberg and Grönlund (2013) indicating that mobile learning supports formative assessment and learner autonomy.

Despite these advantages, several challenges were identified, particularly concerning the varying levels of digital literacy among students. Some instructors expressed concerns that while many students are adept at using mobile devices for social and entertainment purposes, they lack the necessary skills to leverage them effectively for academic learning (Kessler, 2018). This discrepancy underscores the need for digital literacy training to ensure that

students can navigate educational apps, evaluate credible resources, and manage their time effectively when using mobile learning tools (Hwang & Fu, 2019).

Another notable challenge was the lack of institutional support for MALL integration. Instructors reported that while mobile learning technologies are widely available, there is often insufficient training and professional development for teachers on how to incorporate them effectively into pedagogical practices (Burston, 2014). Moreover, some institutions enforce strict mobile phone policies that hinder the incorporation of MALL into classroom instruction, highlighting a gap between technological advancement and institutional readiness for mobile learning adoption (Kukulska-Hulme & Shield, 2008). Addressing these challenges requires a comprehensive approach that includes faculty training, policy adjustments, and the development of structured MALL-based curricula.

ForLearners' Performance Improvement

The quantitative evaluation of learners' performance improvement involved analyzing pretest and post-test scores for both the experimental group, which received MALL-assisted instruction, and the control group, which followed traditional teaching methods. The results indicated that students in the experimental group demonstrated a statistically significant enhancement in vocabulary acquisition and listening comprehension compared to those in the control group.

To assess these differences, a paired sample t-test was conducted to compare the mean scores before and after the MALL intervention. The statistical results are displayed in the tables below.

Group	N	Pre-Test Mean	Post- Test Mean	SD (Pre)	SD (Post)	t-value	p-value
Experimental	50	58.4	78.6	12.3	10.7	6.32	< 0.001
Control	50	57.9	65.2	13.1	12.5	3.15	0.002

 Table 1: Vocabulary Test Results (Pre-Test vs. Post-Test)

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Group	N	Pre-Test Mean	Post- Test Mean	SD (Pre)	SD (Post)	t-value	p-value
Experimental	50	62.1	81.4	11.7	9.8	7.21	< 0.001
Control	50	61.5	68.3	12.0	11.2	2.88	0.004

 Table 2: Listening Comprehension Test Results (Pre-Test vs. Post-Test)

The results from Table 1 and Table 2 suggest that learners in the MALL-assisted environment outperformed those receiving traditional instruction in both vocabulary and listening comprehension. The experimental group showed a substantial increase in mean scores, with a significant difference in t-values and p-values (p < 0.05), confirming the effectiveness of MALL in improving EFL proficiency. These findings align with previous research by Stockwell and Hubbard (2013) and Burston (2014), who found that MALL significantly enhances learners' engagement, vocabulary retention, and listening comprehension through interactive and contextualized learning experiences.

Additionally, learners in the experimental group reported higher levels of motivation and engagement, as evidenced by their increased willingness to complete supplementary vocabulary exercises and listening tasks using mobile applications. These findings support the premise that digital learning environments provide learners with greater autonomy and flexibility, contributing to improved language acquisition outcomes (Kukulska-Hulme & Viberg, 2018).

However, the study also highlights the need for structured guidance in MALL implementation, as some learners struggled with self-regulated learning when given unrestricted access to mobile learning tools. Future research should explore the long-term impact of MALL on EFL proficiency and identify strategies for optimizing its integration into curriculum design.

Conclusion and Recommendations

The findings of this study affirm the significant role of MALL in enhancing EFL instruction by improving learners' vocabulary acquisition, listening comprehension, and overall engagement. The quantitative results demonstrate that MALL provides a more interactive and flexible learning environment, allowing students to practice language skills autonomously and with greater motivation. Additionally, the qualitative analysis highlights instructors' positive perceptions of MALL, despite concerns about digital literacy and institutional support.

To optimize MALL's effectiveness, it is recommended that educators integrate structured mobile learning strategies into EFL curricula, ensuring alignment with pedagogical objectives. Institutions should provide training programs for instructors to enhance their ability to implement MALL effectively. Furthermore, policymakers should address digital literacy gaps by equipping students with essential mobile learning skills and providing equitable access to mobile learning tools. Future research should explore long-term MALL interventions across diverse linguistic and cultural contexts to establish best practices for its integration in language education.

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