



MOBILE APPLICATIONS FOR LANGUAGE LEARNING

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Abstract. The advancement of mobile technologies has led the shift towards ubiquitous learning, where learning can occur anytime, anywhere. Over the past decades, mobile devices are no longer confined to communication purposes but are increasingly used as an essential learning tool across all levels of education (Crompton & Burke, 2018; Heil et al., 2016; Rajendran & Md Yunus, 2021; Shin et al., 2011). The rapid proliferation of smartphones has transformed language education through Mobile-Assisted Language Learning (MALL) applications. This study examines the effectiveness of mobile apps (such as Duolingo, Babbel, and Busuu) in enhancing second/foreign language acquisition, drawing on meta-analyses and empirical research from 2015–2025.

Keywords: Mobile-Assisted Language Learning (MALL), language learning apps, gamification, Duolingo, effectiveness, meta-analysis, digital education.

Introduction

Studies about MALL have evolved from empirical investigations on the effectiveness of existing mobile applications to design-based research that centred on the development of mobile applications to address specific areas of concern within language learning (Botero et al., 2018; Viberg & Grönlund, 2012). Despite



the encouraging development of MALL, many studies on its implementation focused on short-term pre- and post-test results (GutiérrezColón et al., 2020; Hsu & Liu, 2021).

Traditional language learning methods are often constrained by time, location, and learner motivation. MALL addresses these limitations through features like gamification, spaced repetition systems (SRS), multimedia input, instant feedback, and adaptive learning paths. The primary objectives of this paper are to evaluate the impact of MALL on key language skills (vocabulary, grammar, listening, speaking, reading, and writing), assess user motivation and engagement, and identify pedagogical challenges and best practices for integration. In terms of development research related to mobile applications for language learning, researchers tend to emphasise the testing of diverse technologies such as multimedia, virtual and augmented reality, conversational agents and artificial intelligence-based systems. Moreover, previous reviews on mobile-assisted language learning were focusing on factors and effects of using mobile tools. For instance, Elaish et al. (2019) reviewed 69 papers on mobile English language learning according to constructs that included types of mobile learning technologies, language learning problems, sample information, purposes and assessment methods. Most of the studies selected were in the form of investigation or review. There is an apparent need to investigate further the development process by scrutinising the fundamental theories that were selected.

Methodology

A systematic review and synthesis of existing literature was conducted, including meta-analyses, randomized controlled trials, and quasi-experimental studies (over 40 sources). Effectiveness was measured through learning outcomes (pre/post-test scores), retention rates, motivation levels, and user experience



surveys. Popular applications were compared in terms of design features and reported learning gains.

Key Findings

- ✓ Meta-analyses consistently report moderate to large positive effects of MALL on overall language achievement (Hedges' $*g^* \approx 0.55-0.88$) compared to traditional methods.
- ✓ Vocabulary acquisition and listening/reading skills show particularly strong gains, supported by gamification elements that can increase learner engagement by 30–50%. Long-term interventions (≥ 10 weeks) yield larger effects.
- ✓ Speaking and writing skills demonstrate moderate improvement but often require supplementary real-life practice or AI-powered conversational tools.
- ✓ Apps enhance learner autonomy and motivation, especially in EFL/ESL contexts, though challenges include limited personalization, screen fatigue, and over-reliance on structured drills.

Top-rated language learning apps here is a curated list of the most effective language learning applications available:

Duolingo: The premier app for beginners and casual daily practice. Its bite-sized, game-like lessons span over 40 languages and are highly effective for building core vocabulary and daily habits.

Busuu: Excellent for those who value community. It offers structured language courses, grammar trainers, and the ability to have your written and spoken exercises reviewed by native speakers.

Babbel: A standout choice for structured grammar and realistic, conversational practice. Lessons are designed by linguists to teach practical, real-world phrases rather than rote memorization.



Superfluent: Recommended by language learners on Reddit for situational practice. It utilizes realistic conversation scenarios (e.g., ordering coffee) to aid in conversational fluency.

Beelinguapp: Ideal for intermediate and advanced learners. It improves reading and listening comprehension using side-by-side bilingual texts and audiobooks.

Langotalk: Regarded as a gold standard for AI language tutoring. It acts as an AI conversational partner tailored to your skill level, offering dynamic and responsive speaking practice.

Conclusion and Recommendations

Mobile applications serve as highly effective supplementary tools for language learning rather than complete replacements for classroom instruction or human interaction. Optimal results are achieved through blended approaches combining MALL with teacher guidance and authentic communication. Future research should focus on long-term longitudinal studies, AI integration (e.g., generative AI for personalized dialogues), cultural adaptation of apps, and implementation in under-resourced educational settings. Developers are encouraged to prioritize adaptive algorithms and comprehensive skill coverage. Since the applications were meant for language learning, it is a concern that the development process is guided only by generic pedagogical approaches such as situated learning and collaborative learning. Though these studies are beneficial in outlining how the application should function, they may not be accurately solving the problems identified in language learning. In conclusion, this systematic review has highlighted the need to document the inclusion of learning theories properly in the development of mobile applications for language learning, which can guide other researchers who intend to evaluate the most appropriate theories to be used.



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