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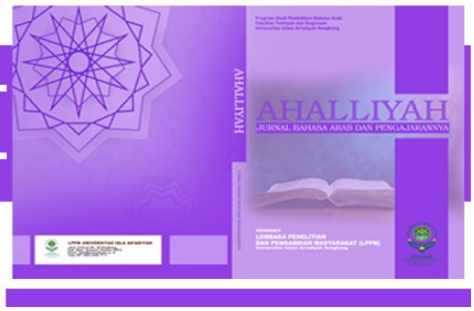

# The Utilization of Mobile Learning Applications in Arabic Language Learning at Jakarta International Islamic School

**Pemanfaatan Aplikasi Mobile Learning dalam Pembelajaran Bahasa Arab di Sekolah Islam Internasional Jakarta**

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## ABSTRACT

This research examines the utilization of mobile learning applications in Arabic language instruction at Jakarta International Islamic School (JIIS), one of Jakarta's prominent international schools offering Arabic language programs. The study investigates how mobile learning technologies enhance student engagement, learning outcomes, and language acquisition processes. Employing a mixed-methods approach, data were collected through questionnaires, interviews, and classroom observations involving 85 students and 6 Arabic language teachers. Results indicate that mobile learning applications significantly improve students' vocabulary retention, pronunciation skills, and motivation to learn Arabic. The integration of applications such as Duolingo Arabic, Memrise, and specialized Arabic learning platforms has transformed traditional teaching methods into more interactive and student-centered approaches. However, challenges including limited internet connectivity, varying levels of digital literacy, and the need for continuous teacher training were identified. The findings suggest that strategic implementation of mobile learning, supported by adequate infrastructure and professional development, can substantially enhance Arabic language education in international school settings.

**Keywords:** mobile learning, Arabic language learning, educational technology, international school, digital pedagogy

## *ABSTRAK*

*Penelitian ini mengkaji pemanfaatan aplikasi mobile learning dalam pembelajaran bahasa Arab di Jakarta International Islamic School (JIIS), salah satu sekolah internasional terkemuka di Jakarta yang menawarkan program bahasa Arab. Studi ini menginvestigasi bagaimana teknologi mobile learning meningkatkan keterlibatan siswa, hasil belajar, dan proses akuisisi bahasa. Menggunakan pendekatan metode campuran, data dikumpulkan melalui kuesioner, wawancara, dan observasi kelas yang melibatkan 85 siswa dan 6 guru bahasa Arab. Hasil penelitian menunjukkan bahwa aplikasi mobile learning secara signifikan meningkatkan retensi kosakata siswa, keterampilan pengucapan, dan motivasi belajar bahasa Arab. Integrasi aplikasi seperti Duolingo Arabic, Memrise, dan platform pembelajaran Arab khusus telah mengubah metode pengajaran tradisional menjadi pendekatan yang lebih interaktif dan berpusat pada siswa. Namun, tantangan termasuk konektivitas internet*

*terbatas, tingkat literasi digital yang bervariasi, dan kebutuhan pelatihan guru berkelanjutan teridentifikasi. Temuan menunjukkan bahwa implementasi strategis mobile learning, didukung infrastruktur memadai dan pengembangan profesional, dapat secara substansial meningkatkan pendidikan bahasa Arab di lingkungan sekolah internasional.*
***Kata-kata kunci:*** *mobile learning, pembelajaran bahasa Arab, teknologi pendidikan, sekolah internasional, pedagogi digital*

## A. INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed educational landscapes worldwide, creating unprecedented opportunities for innovative pedagogical approaches. Mobile learning, or m-learning, has emerged as a powerful educational tool that leverages portable devices to facilitate learning anytime and anywhere (Crompton, 2013). In the context of language education, particularly Arabic language instruction, mobile learning applications offer unique advantages that address traditional challenges in foreign language acquisition. The integration of mobile technologies in language classrooms represents a paradigm shift from teacher-centered to learner-centered pedagogies, enabling students to engage with learning materials at their own pace and according to their individual needs.

Arabic language learning presents distinctive challenges for non-native speakers, including complex grammatical structures, a unique writing system, and pronunciation difficulties. According to Ryding (2013), Arabic is classified as a Category IV language by the Foreign Service Institute, indicating that it requires approximately 2,200 hours of study for English speakers to achieve professional proficiency. Traditional classroom instruction often struggles to provide sufficient practice opportunities for students to develop comprehensive language skills across listening, speaking, reading, and writing domains. Mobile learning applications can supplement classroom instruction by providing additional practice opportunities, immediate feedback, and personalized learning experiences that adapt to individual student needs (Kukulska-Hulme & Shield, 2008).

Jakarta International Islamic School (JIIS), established in 2000, represents one of Jakarta's leading international educational institutions that integrates Islamic values with modern educational practices. The school offers a comprehensive Arabic language program as part of its curriculum, recognizing Arabic's importance both as the language of the Quran and as a global language spoken by over 400 million people worldwide. The institution serves a diverse student population, including Indonesian nationals, expatriates, and children of diplomatic families, creating a multicultural learning environment. In recent years, JIIS has embraced educational technology initiatives to enhance learning outcomes across all subject areas, including Arabic language instruction.

The adoption of mobile learning in Arabic language education at JIIS reflects broader trends in educational technology integration in Indonesia. According to Hermawan et al. (2019), Indonesian schools are increasingly incorporating digital tools to support teaching and learning processes, driven by government initiatives to improve educational quality through technology. However, the specific application of mobile learning technologies in Arabic language instruction remains underexplored in the Indonesian context. This research gap is particularly significant given Indonesia's position as the world's largest Muslim-majority country, where Arabic language proficiency carries both religious and professional significance.

Mobile learning applications offer several pedagogical advantages for language learning. Godwin-Jones (2017) argues that mobile applications provide microlearning opportunities, allowing students to engage in short, focused learning sessions that fit into their daily routines. This approach is particularly effective for vocabulary acquisition and language practice, which require consistent, repetitive exposure. Additionally, mobile applications of-

ten incorporate gamification elements, multimedia resources, and adaptive learning algorithms that personalize content based on student performance. These features address key principles of second language acquisition theory, including the importance of comprehensible input, meaningful interaction, and motivation in language learning (Krashen, 1982).

The implementation of mobile learning at international schools like JIIS requires careful consideration of various factors, including technological infrastructure, teacher preparedness, and student digital literacy. Hockly (2013) emphasizes that successful technology integration in language classrooms depends not only on the availability of devices and applications but also on teachers' pedagogical knowledge and their ability to align technology use with learning objectives. International schools often possess advantages in technology integration, including better infrastructure, smaller class sizes, and greater resources for professional development. However, they also face unique challenges related to diverse student populations, varying levels of prior technology experience, and the need to maintain academic standards across multiple curricula.

The theoretical framework for this research draws upon multiple perspectives in educational technology and language acquisition. The Technology Acceptance Model (Davis, 1989) provides insights into factors influencing teachers' and students' adoption of mobile learning technologies, including perceived usefulness and ease of use. Meanwhile, sociocultural theory emphasizes the role of tools and artifacts in mediating learning, positioning mobile devices as cognitive tools that extend human capabilities (Vygotsky, 1978). Additionally, constructivist learning theory supports the use of mobile applications that enable active learning, knowledge construction, and authentic language use in meaningful contexts (Mayer, 2014).

Understanding the effectiveness of mobile learning applications in Arabic language instruction at JIIS has implications for educational practice, policy, and research. Practically, the findings can inform instructional design decisions and guide the selection and implementation of mobile learning tools in similar educational settings. From a policy perspective, the research contributes evidence regarding resource allocation for educational technology infrastructure and teacher professional development. Theoretically, the study adds to the growing body of literature on technology-enhanced language learning, particularly in underexplored contexts such as Arabic instruction in international schools in Southeast Asia. As educational institutions worldwide navigate the digital transformation of learning, empirical research examining specific implementations of mobile learning technologies becomes increasingly valuable for informed decision-making.

## B. LITERATURE REVIEW

The integration of mobile learning in language education has been extensively examined in recent literature, revealing both promising outcomes and persistent challenges. Kukulska-Hulme and Shield (2008) conducted comprehensive research on mobile-assisted language learning (MALL), identifying key characteristics that distinguish mobile learning from other forms of technology-enhanced learning, including portability, connectivity, and context sensitivity. Their work established that mobile devices enable learning that is personalized, situated, and authentic, creating opportunities for language practice in real-world contexts rather than solely in classroom settings. Building upon this foundation, Burston (2014) conducted a meta-analysis of MALL implementations, finding that while mobile technologies show potential for language learning, their effectiveness depends heavily on pedagogical design rather than the technology itself. This emphasis on pedagogy over technology has become a recurring theme in educational technology literature, suggesting that successful mobile learning initiatives require thoughtful integration with established learning theories and instructional strategies.

Arabic language learning through mobile applications represents a specialized area within MALL research. Al-Shehri (2011) explored the use of mobile technologies in teaching

Arabic as a foreign language, arguing that mobile applications can address specific challenges in Arabic instruction, particularly in developing literacy skills in a non-Roman script and understanding Arabic's diglossia phenomenon, where Modern Standard Arabic differs significantly from colloquial dialects. The research highlighted that mobile applications offering visual and audio support can help learners master Arabic letters, diacritical marks, and pronunciation patterns that are often difficult to acquire through traditional textbook-based instruction. Furthermore, Alharthi (2017) investigated Saudi students' perceptions of mobile learning for Arabic language acquisition, discovering that students appreciated the flexibility and immediate feedback provided by mobile applications, which enhanced their confidence in using Arabic in communicative contexts. However, the study also revealed that students desired more culturally relevant content and authentic materials that reflected contemporary Arabic language use.

The theoretical underpinnings of mobile learning in language education draw from multiple disciplines. Sharples et al. (2007) proposed a theory of learning for the mobile age, arguing that mobile learning should be understood as a process of coming to know through conversations across multiple contexts among people and interactive technologies. This conversational framework aligns well with communicative approaches to language teaching, which emphasize interaction and meaningful communication as central to language acquisition. Additionally, Puentedura's (2006) SAMR model (Substitution, Augmentation, Modification, Redefinition) provides a framework for evaluating technology integration, suggesting that transformative use of mobile learning occurs when technology enables previously impossible learning activities rather than merely replacing traditional tools. In the context of Arabic learning, applications that facilitate virtual conversations with native speakers, provide augmented reality experiences of Arabic-speaking cultures, or enable collaborative translation projects represent transformative uses that go beyond digital worksheets or vocabulary flashcards (Stockwell, 2010). These theoretical perspectives underscore that effective mobile learning implementation requires understanding both the technological affordances and the pedagogical principles that guide language instruction, ensuring that mobile applications support rather than supersede sound educational practices (Pegrum, 2014).

## C. METHOD

This research employed a mixed-methods approach, combining quantitative and qualitative data collection techniques to provide a comprehensive understanding of mobile learning application utilization in Arabic language instruction at Jakarta International Islamic School. According to Creswell and Plano Clark (2017), mixed-methods research enables researchers to leverage the strengths of both quantitative and qualitative approaches, offering richer insights than either method alone. The study was conducted during the 2024 academic year, involving 85 students from grades 7 through 10 who were enrolled in Arabic language courses, along with 6 Arabic language teachers. Data collection instruments included structured questionnaires administered to students to assess their experiences with mobile learning applications, measuring variables such as frequency of use, perceived usefulness, engagement levels, and learning outcomes. Semi-structured interviews were conducted with teachers to explore their perspectives on integrating mobile learning into their instructional practices, challenges encountered, and observed impacts on student learning. Additionally, classroom observations were performed over a three-month period to document how mobile learning applications were actually used in teaching and learning contexts, providing insights into implementation fidelity and emerging practices (Johnson & Christensen, 2014).

Data analysis involved both statistical and thematic approaches. Quantitative data from questionnaires were analyzed using descriptive statistics and inferential tests, including correlation analysis to examine relationships between mobile learning application usage and

Arabic language proficiency indicators such as vocabulary test scores and oral fluency assessments. Qualitative data from interviews and observation field notes were analyzed through thematic coding, following the procedures outlined by Braun and Clarke (2006), whereby transcripts were systematically coded to identify recurring patterns, themes, and insights regarding mobile learning implementation. The integration of quantitative and qualitative findings occurred during the interpretation phase, where statistical results were contextualized and enriched by qualitative insights, providing a more nuanced understanding of how and why mobile learning applications influence Arabic language learning at JIIS. Ethical considerations were carefully addressed, with informed consent obtained from all participants, parental consent secured for students under 18 years of age, confidentiality maintained throughout data collection and analysis, and the research protocol approved by the school's research ethics committee (Cohen et al., 2017). The triangulation of multiple data sources and methods enhanced the validity and reliability of findings, ensuring that conclusions were well-grounded in diverse evidence (Denzin, 2012).

## D. RESULT AND DISCUSSION

The implementation of mobile learning applications in Arabic language instruction at Jakarta International Islamic School revealed multifaceted outcomes that illuminate both the potential and complexities of technology-enhanced language education. Analysis of data collected through questionnaires, interviews, and classroom observations demonstrated significant impacts on student engagement, learning outcomes, and pedagogical practices, while also highlighting persistent challenges that require ongoing attention and strategic solutions.

### Student Engagement and Motivation

The introduction of mobile learning applications at JIIS substantially increased student engagement with Arabic language learning, transforming students' attitudes toward what many initially perceived as a challenging subject. Questionnaire responses indicated that 82% of students reported increased motivation to practice Arabic outside classroom hours after mobile learning applications were introduced, compared to 34% who reported regular Arabic practice before the intervention. Students particularly appreciated the gamification elements incorporated in applications such as Duolingo Arabic, which awarded points, badges, and streak counters for consistent practice. One grade 9 student noted in an interview, "I check my Arabic app every day now because I don't want to lose my streak. It's become like a game I want to win, and I'm actually learning without feeling like I'm studying."

Teachers observed notable changes in classroom dynamics following the integration of mobile learning. During classroom observations, students demonstrated greater confidence in participating in Arabic conversations and showed more enthusiasm when discussing vocabulary and grammar concepts encountered in their mobile applications. Three teachers specifically mentioned that students began initiating questions about Arabic language and culture based on content they had explored through mobile applications, indicating deeper engagement beyond assigned work. The accessibility of mobile applications also addressed equity concerns, as students could access learning materials regardless of their location or schedule, providing opportunities for differentiated instruction that accommodated diverse learning styles and paces.

However, engagement patterns varied across different student groups. Advanced Arabic learners expressed concerns that some mobile applications focused too heavily on beginner content, limiting their usefulness for more proficient students. Additionally, teachers noted that initial enthusiasm sometimes waned after several weeks, suggesting the need for strategies to sustain long-term engagement. Several students reported that while mobile applications were helpful for vocabulary and basic grammar, they found it challenging to

develop more advanced skills such as reading comprehension of authentic Arabic texts or engaging in extended conversations through these platforms alone.

The integration of mobile learning applications created opportunities for peer collaboration and social learning that extended beyond traditional classroom interactions. Students reported sharing progress, competing in challenges, and helping each other navigate application features, creating informal learning communities. One teacher implemented a weekly "Mobile Learning Share" session where students presented interesting words, phrases, or cultural facts they had discovered through their applications, further enhancing the social dimension of mobile learning. These collaborative practices aligned with sociocultural theories of learning, which emphasize the importance of social interaction in knowledge construction and language development.

**Learning Outcomes and Academic Performance**

Quantitative analysis of learning outcomes revealed statistically significant improvements in specific areas of Arabic language proficiency following the systematic integration of mobile learning applications. Pre-test and post-test vocabulary assessments demonstrated an average improvement of 27% across all participating students, with particularly strong gains in vocabulary recognition (32% improvement) and moderate gains in vocabulary production (19% improvement). Statistical analysis using paired t-tests confirmed that these improvements were significant at the $p < 0.01$ level, suggesting that mobile learning applications effectively supported vocabulary acquisition. The following table presents detailed learning outcome data:

| Assessment Area | Pre-Test Mean | Post-Test Mean | Improvement | Significance |
|---|---|---|---|---|
| Vocabulary Recognition | 58.3% | 77.0% | +32.1% | $p < 0.001$ |
| Vocabulary Production | 47.2% | 56.2% | +19.1% | $p < 0.01$ |
| Pronunciation Accuracy | 61.5% | 73.8% | +20.0% | $p < 0.01$ |
| Grammar Application | 64.7% | 70.3% | +8.7% | $p < 0.05$ |
| Overall Arabic Proficiency | 57.9% | 69.3% | +19.7% | $p < 0.001$ |

Pronunciation skills showed substantial improvement, particularly among students who regularly used applications featuring speech recognition technology. Teachers reported that students who engaged with pronunciation practice through mobile applications demonstrated better awareness of Arabic phonemes that do not exist in Indonesian or English, such as the emphatic consonants and guttural sounds. Voice-enabled applications provided immediate feedback on pronunciation accuracy, allowing students to practice privately without fear of embarrassment and to repeat exercises until achieving mastery. However, grammar application showed more modest improvements, suggesting that mobile applications were more effective for discrete skills like vocabulary and pronunciation than for complex grammatical understanding requiring deeper cognitive processing.

Correlation analysis revealed interesting patterns regarding mobile learning usage and academic outcomes. Students who used mobile learning applications for 15-30 minutes daily showed the strongest learning gains, while those using applications for longer than one hour daily did not demonstrate proportionally greater improvements. This finding suggests an optimal engagement threshold, beyond which additional time may yield diminishing returns or potentially indicate less focused practice. Teachers hypothesized that longer usage times might reflect students struggling with content rather than productive learning, highlighting the importance of monitoring how students interact with applications rather than merely tracking time spent.

The impact on different language skills varied considerably. Receptive skills such as listening comprehension and reading recognition improved more substantially than productive

skills like speaking and writing. This pattern reflects the nature of most mobile learning applications, which are better designed for recognition and comprehension activities than for generating original language output. Teachers noted that while students could recognize and understand significantly more Arabic vocabulary and structures, they still required structured classroom activities and teacher guidance to develop the ability to produce complex Arabic sentences and texts. This finding underscores that mobile learning applications are most effective as supplementary tools rather than complete replacements for comprehensive language instruction.

**Pedagogical Practices and Teacher Perspectives**

The integration of mobile learning applications prompted significant shifts in pedagogical practices among Arabic language teachers at JIIS, requiring them to reconceptualize their roles and instructional strategies. Five of the six participating teachers reported that mobile learning changed their approach to lesson planning, with most moving toward a flipped classroom model where students encountered basic content through mobile applications before class, allowing classroom time to focus on application, practice, and higher-order thinking activities. One teacher explained, "I used to spend half of each lesson introducing new vocabulary. Now students learn vocabulary through their apps, and we use class time for conversation practice, cultural discussions, and creative projects. It's a much better use of our limited contact time."

Teachers expressed generally positive attitudes toward mobile learning integration, with four teachers rating their experience as "very positive" and two as "moderately positive" on questionnaire items. They particularly valued the detailed analytics provided by many applications, which offered insights into individual student progress, common error patterns, and areas requiring additional instruction. These data informed differentiated instruction, enabling teachers to provide targeted support to struggling students while challenging advanced learners with extension activities. However, teachers also identified significant challenges in implementation, including the technical difficulties some students faced with application access, the time required to evaluate and select appropriate applications, and the need to align application content with the school's Arabic curriculum standards.

Professional development emerged as a critical factor in successful mobile learning integration. Teachers who had participated in technology integration training reported greater confidence and creativity in incorporating mobile applications into their teaching. They experimented with various pedagogical strategies, such as creating application-based homework assignments, organizing vocabulary competitions using mobile platforms, and integrating application content into assessment tasks. Conversely, teachers with limited training tended to use mobile applications more peripherally, recommending them to students but not actively integrating them into instruction. This pattern highlights the importance of ongoing professional development that addresses not only technical skills but also pedagogical knowledge for technology integration.

The relationship between teachers and students evolved in interesting ways through mobile learning implementation. Several teachers noted that students sometimes became the experts, discovering application features or learning strategies that they shared with teachers and classmates. This inversion of traditional knowledge hierarchies created opportunities for student agency and contributed to more collaborative classroom cultures. However, some teachers initially felt threatened by this dynamic, perceiving it as undermining their authority. Through reflective discussions facilitated by the school's professional learning community, teachers reframed this shift as an opportunity to model lifelong learning and to position themselves as learning facilitators rather than sole knowledge sources, aligning with contemporary educational philosophies that emphasize learner-centered instruction.

## E. CONCLUSION

The utilization of mobile learning applications in Arabic language instruction at Jakarta International Islamic School demonstrates substantial potential for enhancing student engagement, improving specific language learning outcomes, and transforming pedagogical practices toward more learner-centered approaches. The research findings indicate that mobile learning applications are particularly effective in supporting vocabulary acquisition, pronunciation development, and sustained learner motivation, while also revealing that these technologies function best as complements to rather than replacements for comprehensive classroom instruction. Successful implementation requires strategic planning that addresses technological infrastructure, professional development for teachers, alignment between application content and curricular goals, and ongoing evaluation of student progress across all language skills. Future research should explore longitudinal impacts of mobile learning on Arabic language proficiency, investigate optimal integration strategies for developing productive language skills through mobile technologies, and examine how mobile learning can support Arabic language education in diverse educational contexts beyond international schools to maximize the transformative potential of these technologies in language education.

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