



Mobile Learning of Islamic Studies: A Comprehensive Review

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ABSTRACT

Mobile learning (m-learning) has emerged as a transformative force in education, prompting significant exploration of its potential within Islamic Studies. This systematic review critically examines a diverse array of studies to provide a comprehensive overview of the integration of m-learning in Islamic education. As technology reshapes education, m-learning's impact on Islamic Studies becomes a focal point. Moreover, the digital era presents opportunities to enhance engagement and accessibility to sacred knowledge. Traditional Islamic education faces challenges in adapting to modern learning paradigms. The exploration of m-learning's role addresses the need for innovative approaches. This review analyzes educators' readiness, the development of Islamic mobile applications, the efficacy of m-learning tools in Quranic education, and the dimensions of effective m-learning within Islamic Studies. A systematic approach was employed to select and analyze relevant studies. Consequently, these studies encompassed diverse geographic and educational contexts, providing a holistic view of m-learning in Islamic education. M-learning holds transformative potential within Islamic Studies. It presents an avenue to bridge tradition and innovation, making Islamic knowledge accessible and engaging. Educators, scholars, and learners can harness technology to enrich and disseminate Islamic teachings in a contemporary context. Furthermore, this systematic review offers comprehensive insights to guide the integration of m-learning in Islamic education, promoting a dynamic synthesis of heritage and progress.

1. Introduction

Mobile learning (m-learning) transforms traditional pedagogical approaches, particularly in Islamic Studies [1], [2]. This innovative approach bridges the gap between tradition and innovation,

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making sacred knowledge accessible to contemporary learners [3]–[5]. Integrating mobile devices and applications enhances engagement, allowing scholars to easily connect and explore texts. This article explores the potential, challenges, and transformative impact of m-learning in Islamic Studies, focusing on readiness, application development, learning outcomes, and effective dimensions [6]. Other than that, it aims to provide an overview of the burgeoning field of m-learning in Islamic Studies.

While mobile learning (m-learning) has been explored in various educational contexts, there is a lack of comprehensive studies focusing specifically on its integration within the sphere of Islamic Studies. Despite some initial research into the readiness of educators and the development of mobile applications for Quranic education, there remains a significant gap in understanding the holistic impact of m-learning on traditional Islamic pedagogical methods. Moreover, existing studies often do not address the cultural and contextual challenges faced in implementing m-learning in diverse Islamic educational settings.

This study aims to bridge this gap by providing a detailed analysis of the implementation and outcomes of m-learning in Islamic education across different cultural contexts. It will evaluate the effectiveness of mobile tools in enhancing the accessibility and engagement of learners with Islamic content. Additionally, the research will contribute to the development of pedagogical frameworks that incorporate m-learning in a way that respects and preserves the unique aspects of Islamic teaching. Ultimately, the study seeks to offer practical guidelines for educators and developers to create impactful and culturally appropriate m-learning solutions in Islamic education.

2. Literature Review

M-learning has emerged as a transformative approach in education, enabling educators and learners to leverage mobile devices for learning purposes [7]–[9]. This literature review delves into various aspects of m-learning within the context of Islamic Studies, exploring the readiness of religious teachers, the development of Islamic applications, the utilization of SMS-based learning, and the effectiveness of mobile applications for Quranic education.

2.1 Religious Teachers' Readiness for Mobile Learning

The study by A. Nawi et al. [10] explores instructors' perceptions of their readiness to use mobile devices as m-learning aids. Focusing on religious teachers from Putrajaya, Selangor, the study analyzes the types of handsets used, mobile application usage, learning activities, and the acceptance of gadgets in teaching. Through purposive sampling, the data is gathered from 32 religious teachers in five secondary schools using Likert-scale questionnaires. Consequently, descriptive findings reveal the willingness of teachers to engage in m-learning, demonstrating their exposure to mobile-based learning activities [10].

2.2 Development of Islamic Mobile Applications

Abdul Mutalib et al. [11] explore the development of Islamic mobile applications and their impact on learning. The study investigates evolving learning methods through semi-structured interviews and surveys, including online platforms like YouTube, Facebook, multimedia presentations, and mobile applications. Apart from that, the research highlights the scarcity of knowledge about *Asmaul Husna* among Muslims, emphasizing the need for effective digital tools to enhance Islamic education [11].

2.3 Learning Quranic Verses via Mobile Applications

Alqahtani and Mohammad's study [12] focuses on the usage of mobile applications to teach Quranic passages. The "Say Quran" mobile application for memorizing the Holy Quran is evaluated in the study for its perceived value in relation to behavioral aspects. The application's good correlation with students' perceived behavior, performance, and happiness points to the potential of mobile apps to improve Quranic education [12].

2.4 SMS-Based Mobile Learning for Islamic Knowledge

On the other hand, Alkasirah and Nor [8] delve into the potential of SMS-based m-learning to enhance Islamic knowledge, specifically focusing on *waqf*. The study employs an andragogical approach, using a Solomon Four Group Design, to investigate the impact of SMS learning on 80 adult learners. Findings suggest that SMS-based learning has the potential to improve achievement and interest in the subject, making it a valuable tool for delivering Islamic knowledge [8].

2.5 Problem-Based Learning (PBL) Mobile Applications

Zakaria and Nawati [13] address the development of a Problem-Based Learning (PBL) mobile application for teaching. Applying the ADDIE model, the study outlines the detailed phases of analysis, development, design, evaluation and implementation. The incorporation of behaviorism and constructivism in the application's design, coupled with PBL strategies, underscores the potential of such tools in teaching and learning Islamic Education [13].

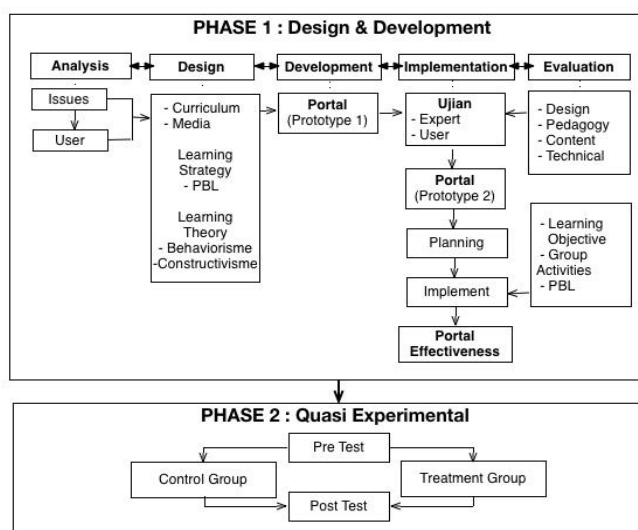


Fig. 1. Conceptual Framework of Problem-Based Learning (PBL) [13]

2.6 Mobile Learning and Quranic Symbols

Alternatively, Wan Khairuldin et al. [1] examine the knowledge of Quranic symbols among al-Quran teachers, particularly *Uthmani Mushaf*. The research uses quantitative methods and questionnaires to assess the level of knowledge and the impact of modern learning methods. Consequently, the study suggests that m-learning methods can contribute to learning Quranic symbols and improving understanding of the Quran [1].

2.7 Effective Dimensions of Mobile Learning

Taheri and Azari [14] present a study that identifies effective dimensions of m-learning within the context of Islamic Azad University. Using exploratory and confirmatory statistical techniques, the research classifies 20 components of effective m-learning into educational, technological, operational, and environmental groups. Moreover, the study highlights the significance of technological aspects in m-learning effectiveness [14].

The reviewed articles collectively underscore the evolving role of m-learning in Islamic Education. These studies shed light on the readiness of religious teachers, the development and impact of Islamic applications, the potential of SMS-based learning, the utility of PBL-focused apps, and the effectiveness of m-learning for Quranic education. As technology advances, these insights offer valuable guidance for integrating m-learning to enhance the quality of Islamic education.

3. Material and Methodology

3.1 Identification

Three main stages make up the systematic review approach, which was used to identify a large number of papers for this study. The initial phase is about identifying keywords and searching for related terms using dictionaries, thesaurus, encyclopedias, and previous research. Search strings have been created for the Scopus and ERIC databases once all relevant phrases have been chosen (see Table 1). It should be mentioned that 115 papers were successfully retrieved from both databases during the initial stage of the systematic review procedure for the current study project.

Table 1

The search string

Scopus	TITLE-ABS-KEY (mobile AND learn* AND islam*) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (PUBSTAGE, "final"))
ERIC	mobile AND learn* AND islam*

3.2 Screening

Duplicate papers should not be taken into consideration during the initial screening process. In contrast to the first phase, which excluded four articles, the second phase screened 65 publications based on a number of inclusion and exclusion criteria developed by academics. Literature (research articles) was the first criterion because it is the primary source of relevant knowledge. Additionally, publications in the form of systematic reviews, reviews, meta-analyses, meta-synthesis, book series, books, chapters, or conference proceedings are not included in the current study. Additionally, the review was restricted to English-language research. As a result, 50 publications were completely ignored based on certain standards.

3.3 Eligibility

The third level, called eligibility, has a total of 61 items ready. At this point, each article title and significant passage in the text was thoroughly scrutinized to make sure it complied with the inclusion requirements and the goals of the current study. Since two reports were out of the field, their titles and abstracts did not significantly connect to the study's goal, and they lacked full-text access to articles based on empirical data. Therefore, they were eliminated from the analysis, leaving 37 articles available for review (see Table 2).

Table 2

The search criteria is used for selection

Criterion	Inclusion	Exclusion
Language	English	Non-English
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

3.4 Data Analysis and Abstraction

One of the strategies for analyzing and combining several research designs (qualitative, quantitative, and mixed methods) was used in this study: integrative analysis. The focus of the expert research was on creating pertinent subjects and subtopics. Here, the theme-development process began with the data collection phase. The authors have carefully gone over a selection of 34 papers to look for claims or information addressing the topics of this latest study. The authors and specialists then conduct an analysis of the nation's m-learning in Islamic Studies to establish and create useful groups. Efficiency and difficulties of m-learning in Islamic Studies are the two primary themes that came out of the methodology. The subjects that the authors had previously established, together with any related themes, conceptions, or ideas, were then resumed. In the framework of this study, the corresponding author and other coauthors worked together to create themes based on the data. Throughout the data analysis process, a log was kept to note any analyses, thoughts, conundrums, or other ideas relevant to the data interpretation.

The writers also compared the outcomes in order to address any discrepancies in the theme-creation process. Any differences between the themes were handled by the authors when they emerged. The created notions were then modified to ensure coherence. To ensure the validity of the concerns, the tests were conducted by two experts, one with knowledge of cancer and the other with knowledge of educational technology. The expert review phase guaranteed the clarity, importance, and applicability of each sub-theme by proving domain validity. Accordingly, modifications have been made at the author's discretion based on expert feedback and opinions.

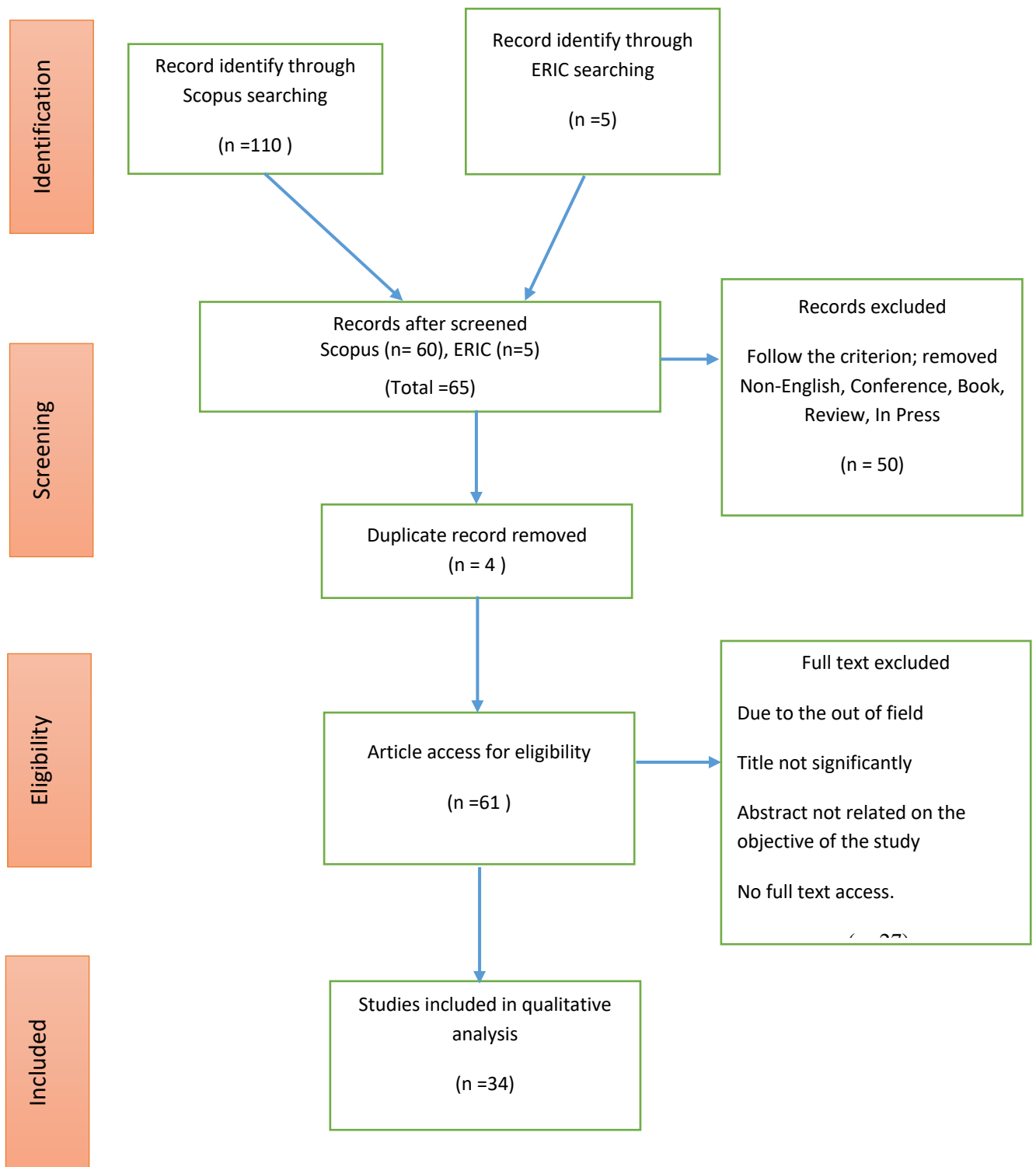


Fig. 2. Flow diagram of the proposed search study [15]

4. Result and Finding

In recent years, the realm of education has undergone a profound transformation with the advent of m-learning, which harnesses the power of mobile devices to facilitate learning experiences. Within the context of Islamic Studies, this paradigm shift has given rise to innovative approaches to enhance the quality and accessibility of Islamic education. By using the search technique, 34 articles were

extracted and analyzed. All papers were classified into two categories: efficiency and challenges of m-learning in Islamic Studies.

4.1 Efficiency of Mobile Learning in Islamic Studies

The articles on the efficiency of m-learning in Islamic Studies will be explored and summarized below in this theme.

Table 3
 Efficiency of mobile learning in Islamic Studies

Authors & Year	Title	Finding
[16] Shamsuddin, Abu Bakar, Makhtar, Wan Isa, Rozaimie & Yusof (2016)	A framework for designing mobile Quranic memorization tool using multimedia interactive learning methods for children	In order to help kids memorize the Quran and successfully rephrase material, this study offers a framework for developing a Quran memorizer application that combines multimedia interactive approaches and mobile learning theories.
[17] Sevкли, Motiwalla & Abdulkarem (2017)	The design and implementation of a context-aware mobile Hadith learning system	The answers to both surveys indicate that our application has no significant usability issues and that the suggested system can be utilized to encourage hadith learning and advance users.
[18] Alim, Linda, Gunawan & Saad (2019)	The effectiveness of Google Classroom as an instructional media: A case of State Islamic Institute of Kendari, Indonesia	The results showed that Google Classroom was useful, but there were a few drawbacks: (1) not all students received accounts from the lecturers because they lacked smartphones; (2) Wi-Fi was not widely available on campus; (3) students' mobile data plans were insufficient during online discussions; and (4) some students submitted their assignments using the accounts of their friends.
[19] Ahmed Adhoni, Al Hamad, Ahad Siddiqi, Parvez & Ahmed Adhoni (2013)	Cloud-based online portal and mobile-friendly application for the Holy Quran	The program provides a mobile-friendly interface for quick access to Quran resources, including forums, tools for memorizing the Quran, and a search engine. It also offers an accurate translation of the Quran in Urdu for non-Arab users, and a transcription for those who cannot read Urdu.
[20] Maulana, Hijriyah & Prasetyo (2019)	Developing mobile learning media for Arabic language instruction at an Islamic senior high school in Lampung, Indonesia	It may be said that the mobile learning resources for Arabic are excellent for learning and significantly enhance student learning outcomes. In comparison to other studies, the current research offers some novel concepts for how Arabic learning might incorporate the four language skills as well as interactive tests for those skills. This makes this product comprehensive in addition to being effective and efficient.
[21] Jennah, Mujib & Jamalie (2023)	The acceptance and effectiveness of digital learning technologies: A detailed empirical investigation in Islamic Study classrooms	Students in Islamic Studies prefer classroom response systems, digital textbooks, and mobile virtual reality, highlighting the need for accessible and affordable technologies to enhance learning skills.
[22] Ariff et al. (2022)	Mobile development: learn <i>du'a</i> for early childhood learners	The outcome suggests that consumers were happy with the applications because the majority of test results were excellent. Based on these findings, it can be recommended that young children adopt the use of this new mobile app.
[23] Nawi, Hamzah & Abdul Rahim (2015)	Teachers' acceptance of mobile learning for teaching and learning	According to research findings, religious educators have access to mobile learning opportunities and are prepared to use these tools for m-learning.

		in Islamic education: A preliminary study	
[24]	Rahman, Rafhan Syamil & Rodzman (2020)	Development of a mobile application for Malay-translated hadith search engine	This study focuses on developing a mobile hadith search engine in Malay utilizing the Flutter framework for Android and iOS. The Sahih Bukhari hadiths from 2028 can be searched for using the app, with an average recall of 73% and precision of 33%. Testing for functionality verifies that all requirements have been met.
[25]	Hussain (2014)	Dual mode offering as a viable approach for promotion of higher education in Pakistan	The students received a high grade at the end of the course, indicating a significant step in higher education that Pakistan could replicate. The conference will discuss methods, successes, and challenges.
[26]	Hanafi et al. (2020)	Reinforcing public university student's worship education by developing and implementing a mobile-learning management system in the ADDIE instructional design model	e-BBQ is a website and application offering Quran reading, worship, exercise, and instructor login. Experimental evaluations show improved worship abilities and a positive impact on students' learning, making it an enjoyable Islamic educational tool.
[27]	Ariffin & Zuhair (2018)	Supporting usability of mobile technology using multi-languages	Findings showed that the reverts can use the mobile technology that is specially created.
[28]	Turi et al. (2019)	Impact of organizational learning factors on organizational learning effectiveness through mobile technology	The findings demonstrate that organizational cognitive, social, and behavioral factors, with information systems serving as a moderator, have a significant impact on the effectiveness of organizational learning. According to the study, all cognitive, social, and behavioral components and aspects must be addressed and developed in order to achieve comprehensive organizational learning progress.
[29]	Alqahtani & Mohammad (2015)	Mobile applications' impact on student performance and satisfaction	The findings of this study show that the mobile app "Say Quran" and students' reported performance, satisfaction, and conduct while studying the Holy Quran are positively correlated.
[8]	Alkasirah & Nor (2018)	Potential usage of mobile learning via short messaging system (SMS) for enhancing Islamic knowledge of adult learners	The study indicates that SMS-based m-learning can enhance adult learners' waqf knowledge achievement, with significantly higher post-assessment scores. This method enhances interest and memory capacity, making it a promising method for disseminating Islamic information.
[30]	Hamzah et al. (2019)	Android application for children to learn basic solat	The analysis's conclusion is that the program is suitable for teaching new users how to say prayers.
[14]	Taheri & Azari (2015)	Investigating and criteria classifying and effective components of mobile learning among faculties of Islamic Azad Universities, Mazandaran Province, Iran	The safety component contributed the most to efficacy, whereas the field component contributed the least. The technological aspects had the most impact, while the environmental aspect had the least impact.
[31]	Rad (2014)	Psychological aspects effectiveness of m-learning on students' achievement	The findings revealed that the experimental group's numerical mean was greater than that of the control group. The student's performance in Arabic classes is impacted by using a mobile phone, improving motivation and self-confidence.

motivation in Arabic
 language course

4.2 Challenges of Mobile Learning in Islamic Studies

The publications on this issue that discuss the challenges of m-learning in Islamic Studies will be examined and summarized below.

Table 4
 Challenges of Mobile Learning in Islamic Studies

Authors & Year	Title	Finding
[32] Suliaman et al. (2018)	The convenience of <i>takhrij al-hadith</i> through ICT apps: An exploratory analysis on selected hadith website and mobile apps	The study revealed that six ICT apps, including Encyclopedia of 9 Imam applications, contain up to nine takhrij features, including Hadith source, ranking, Sanad, Matan, other sources, Al-Jarh wa al-Ta'dil biographies, Sanad, Matan, and Hukm al-Hadith. However, conducting a hadith search across these apps is time-consuming.
[33] Saidin et al. (2015)	Q-ibadah mobile application: A usability pilot testing	As a result, a few changes were recommended for the subsequent development cycle. This study attempts to offer Malaysian schoolchildren a more modern method of learning this crucial religious lesson.
[34] Sarlan et al. (2021)	Mobile application for children to learn hadith: 'Hidup Cara Rasullullah'	The project aims to create an Android application called " <i>Hidup Cara Rasullullah</i> " for children and parents to learn Islamic hadiths. User acceptance and usability testing show the app's potential to encourage casual learning in Islamic context.
[1] Wan Khairuldin et al. (2019)	The knowledge of mobile learning and Quranic symbols (Dabt al-Quran) in Mushaf Uthmani and mobile learning among al-Quran teachers in IMTIAZ, Terengganu	The study suggests that modern teaching techniques, particularly mobile learning, can help facilitate learning the al-Quran. Teachers in Imtiaz, Yayasan Terengganu, are highly knowledgeable about symbol marking, and there are no significant differences in understanding Quranic symbols based on race or gender.
[35] Nawi et al. (2020)	The needs of Islamic digital resources in Polytechnic Brunei Darussalam: A preliminary study	The Islamic Digital Resources in Polytechnic are appropriate for development and application in teaching and learning, according to the findings. A few concerns relating to the use of Islamic digital resources have been highlighted at the conclusion of the study.
[36] Prayogi (2023)	Problem-based learning utilizing assistive virtual simulation in mobile application to improve students' critical thinking skills	The results of the learning feasibility evaluation show that PBL with PhET's assistive virtual simulation may make learning online enjoyable and interesting. The results of the examination of students' CT skills demonstrate how well PBL plus PhET's practical virtual simulation works to improve students' CT skills. This learning is preferable to expository training in terms of honing CT skills.
[37] Hussain (2013)	A study of learners' reflection on andragogical skills of distance education tutors	The survey revealed that distance learners generally appreciate their instructors' andragogical abilities, including technical, social, and academic skills. However, they require special training for using social media platforms, Skype, and online conversations, recommending both short and long-term training.
[38] Isa, Suhaimi et al. (2020)	Designing a mobile game-based learning application for preschool children on	The three phases of the Digital Educational Game Development Methodology (GAMED) are requirement, game design, and execution. The application emphasizes the Malay cultural aspects of "pantun," or traditional clothing, and the Malay language. More Malay cultural

	oral health education using Malay cultural elements	components could be added in the future to the mobile game-based learning application.
[39] Aziz et al. (2019)	Types of digital games with Islamic values	This study utilized Apple and Android stores, online Islamic games websites, and 1390.6 digital games to identify flaws in existing games and create more suitable ones for the Muslim community.
[40] Iqbal & Qureshi (2012)	M-learning adoption: A perspective from a developing country	The study reveals that perceived playfulness has less impact on students' adoption of m-learning than usefulness, simplicity, and supportive environments, with social influence negatively affecting uptake.
[11] Abdul Mutalib et al. (2018)	A preliminary investigation towards the development of an Islamic mobile application	Modern learning methods, such as YouTube, Facebook, multimedia presentations, videos, PowerPoint slideshows, and mobile apps, have replaced traditional methods, highlighting a significant lack of information and awareness among Muslims.
[41] Supriyadi et al. (2020)	Digital technology era and al-Quran understanding problem: Critical reflection of al-Quran learning through action research	The study outlined six critical reflection steps for students' comprehension of the Quran using an action research design: strengthening tafsir study, selecting ICT media, understanding the Quran through language, historical, mufassir explanation, and assessing learning. These steps were integrated with the tafsir ibn Katsir application.
[42] Azam et al. (2020)	University students' readiness towards mobile learning: The stages of change model	The study reveals that students are well-prepared for m-learning, with female students being more likely to adopt it. This information can aid university librarians, academic staff, IT specialists, and policymakers in creating mobile-related services.
[43] Isa, Suhaimi, Mison, et al. (2020)	Designing a mobile-game-based learning application for children on oral health education using Islamic culture	The GAMED application, focusing on Islamic practices, is being adopted through requirement, design, and implementation stages, with potential for further development and cultural references.
[13] Zakaria & Nawi (2020)	Design and development of a PBL mobile application in Islamic education: A conceptual framework	Researchers utilized constructivism and behaviorism as learning theories, incorporating PBL techniques during planning and development. A conceptual framework was created for efficient mobile application development, ensuring thorough planning and a quick and organized process.
[44] Nawi & Hamzah (2014)	Mobile Fatwa (M-Fatwa): The integration of Islamic Fatwa through mobile technology	To offer a fresh perspective on how to explain the present problems or dilemmas in religion, the difficulties of fatwa integration utilizing mobile technology are also explored in detail. The implementation of m-fatwa via mobile technology in Malaysia has also received several recommendations for achieving this union of the two components.
[45] Mat Isa et al. (2024)	Quran Mobile Application: A Structured Review	The results of this investigation can act as a source of motivation for other scholars, offering a strong foundation for the advancement and enhancement of comprehension of the Quran.
[46] Che Omar et al. (2024)	Expert Review on Augmented Reality Mobile Application for Promoting Asnaf Care	The purpose of this study was to raise more money for those who are impacted by Asnaf Care and to effectively promote the services to users.

5. Discussion and Conclusion

In order to support mobile learning in Islamic Studies, the paper offers a framework for a Quran memorizer app that uses multimedia and learning theories. The app aims to enhance Quran

memorization, backed by positive questionnaire results on usability. It addresses the challenges of limited smartphone access, Wi-Fi availability, and affordability in Indonesian higher education. The application boasts a widget interface for easy Quran access, discussion forums, memorization tools, translation in Urdu, and search features. Moreover, it effectively promotes community engagement and serves Muslims. The study underlines its efficacy for Arabic learning through comprehensive interactive quizzes, outperforming past studies. Various findings highlight m-learning's impact on worship skills, knowledge achievement, motivation, and self-confidence. It proves valuable for both traditional learners and reverts. SMS-based learning is noted to enhance adult learners' knowledge significantly. In conclusion, the paper underscores the efficiency of m-learning in Islamic Studies. It acknowledges challenges but emphasizes positive outcomes and user satisfaction. The app's potential for enhancing Quran memorization and Islamic education is promising, offering practical insights for educators and developers.

Otherwise, the statement discusses various challenges to implementing m-learning in Islamic Studies. It covers various aspects such as app development, Quranic learning, teacher training, game-based education, and technology integration with religious teachings. The challenges include the need for comprehensive Islamic apps, alterations in app development cycles, effective utilization of symbols for Quranic learning, tutor training for distance learners, and the complexities of integrating Islamic elements into digital games. Additionally, the study identifies hurdles in m-learning adoption, emphasizing factors like perceived usefulness and social influence. Integrating *fatwa* using mobile technology also presents challenges, requiring careful consideration of religious issues and cultural context. Overall, the challenges highlighted underscore the intricate nature of integrating technology into Islamic education, demanding meticulous planning, technological proficiency, and a deep understanding of pedagogical nuances within the Islamic framework.

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