

The Use of Mobile Apps for Islamic Learning: A Study on Accessibility and Learning Outcomes

Umar Ibrahim^{1*}, Siddik Faruk Tilli²

^{1,2}Department of Computer Science, Adamu Augie College of Education, Nigeria

*Correspondence Email: uibrahim680@gmail.com

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Abstract

The integration of mobile apps into Islamic education has the potential to enhance accessibility and improve learning outcomes. This study investigates the use of mobile apps for Islamic learning, focusing on their accessibility and impact on students' educational achievements. A mixed-methods approach was employed, involving surveys and interviews with students and educators from Islamic institutions. Data were analysed using statistical tests to assess the level of accessibility and the effectiveness of mobile apps in facilitating learning. The results indicated that a significant proportion of students found these apps easy to use, which correlated with improved learning outcomes, such as better memorization of Qur'anic verses and understanding of Hadith. However, some challenges, including limited access to quality content and digital literacy, were identified. The study concludes that while mobile apps are valuable tools for Islamic education, there is a need for ongoing enhancements to optimize their use. Recommendations are provided for app developers and educators to address these challenges and further integrate technology into Islamic learning.

Keywords: Islamic Education, Mobile Apps, Accessibility, Learning Outcomes, Technology Integration.

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Introduciton

The rapid advancement of Information and Communication Technology (ICT) has transformed the educational landscape, providing new opportunities for enhancing learning experiences across various fields, including Islamic education (Condie & Munro, 2007). Mobile applications have emerged as a powerful tool in this digital age, offering accessibility, interactive learning, and personalized education to students (Sibagariang et al., 2023). These applications are particularly beneficial in the context of Islamic learning, where they can provide resources such as Qur'an recitation, Hadith studies, and Islamic jurisprudence on a digital platform that is accessible anytime and anywhere (Putra & Wanda, 2023). Despite the potential benefits, there is limited empirical research on the accessibility and effectiveness of mobile apps specifically designed for Islamic education, which this study aims to address.

Islamic education traditionally relies on face-to-face interactions and the transmission of knowledge from teachers to students in structured environments such as mosques, madrasas, and schools (Mustofa et al., 2023). However, the integration of mobile apps into Islamic learning offers an alternative method that can complement traditional teaching practices by making learning resources



more readily available and adaptable to individual needs (Wanda & Putra, 2021). These apps can support memorization, enhance understanding, and foster a deeper engagement with Islamic texts and teachings (Minarti et al., 2023). Yet, questions remain regarding the accessibility of these applications, particularly for users in less developed regions, and their actual impact on learning outcomes.

This study seeks to explore the role of mobile apps in Islamic learning by assessing their accessibility and evaluating their impact on learning outcomes. It aims to fill the gap in existing literature by providing empirical evidence on how these digital tools are perceived and utilized by students and educators in Islamic education. Specifically, the study will investigate the following research questions: (1) How accessible are mobile apps designed for Islamic learning? (2) What is the impact of these apps on students' learning outcomes in Islamic education? (3) What are the perceptions of students and educators regarding the use of mobile apps for Islamic learning?

Addressing these questions is crucial as the use of mobile apps in education continues to grow, driven by the increasing penetration of smartphones and internet access worldwide. Understanding the accessibility and effectiveness of Islamic educational apps will not only inform educators and policymakers but also guide app developers in creating tools that meet the specific needs of learners in this field. Moreover, by examining the intersection of modern technology with Islamic education, this study contributes to the broader discourse on how ICT can support and enhance traditional learning methods (Barak, 2007).

In conclusion, the integration of mobile apps into Islamic education presents a unique opportunity to innovate and improve the way Islamic teachings are delivered and received. However, for these innovations to be truly effective, it is essential to understand their accessibility and impact on learning outcomes, which this study aims to achieve through a comprehensive empirical analysis.

The objectives of this study are formulated to address the core areas of concern related to the use of mobile apps in Islamic learning environments. The specific objectives include:

1. To assess the accessibility of mobile apps for Islamic learning (إمكانية الوصول للتطبيقات التعليمية الإسلامية).
2. To evaluate the impact of these apps on learning outcomes in Islamic education (تقييم تأثير هذه التطبيقات على نتائج التعلم).
3. To explore the perceptions of students and educators towards the use of mobile apps in Islamic studies (استكشاف تصورات الطلاب والمعلمين تجاه استخدام التطبيقات الإسلامية).

Research Method

Accessibility of Mobile Apps for Islamic Learning

This study adopts a descriptive research design, which is appropriate for exploring and describing the current use of mobile apps for Islamic learning (التعليم الإسلامي) in terms of accessibility

(إمكانية الوصول) and learning outcomes (نتائج التعلم). Descriptive research helps to systematically describe a phenomenon and examine relationships among variables without manipulating the environment (Amaratunga et al., 2002). This design allows for a comprehensive investigation into how students and educators perceive mobile apps, particularly in Islamic studies, and how these apps impact the learning process.

The study employs a mixed-method approach that combines both quantitative and qualitative data collection techniques. The quantitative approach focuses on numerical data gathered through surveys, while the qualitative aspect involves interviews to gain deeper insights into students' and educators' experiences with mobile apps (Gikas & Grant, 2013). The mixed-method approach offers a holistic understanding of the research problem by triangulating findings from both types of data (Turner et al., 2017).

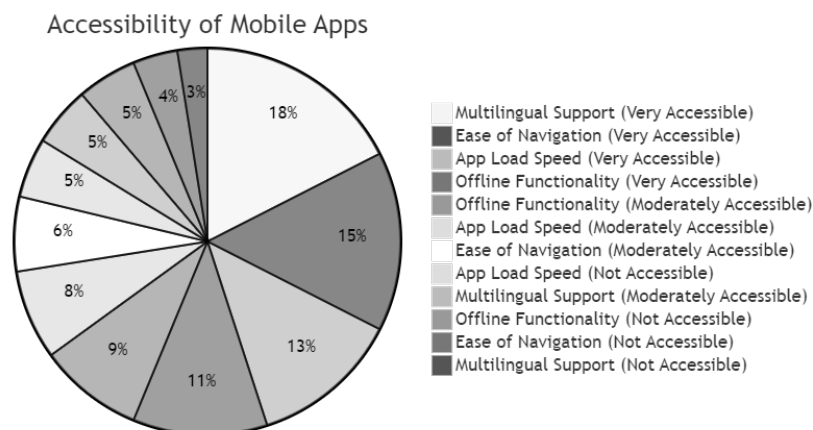
Data collection was carried out through surveys and semi-structured interviews, ensuring the collection of both quantitative and qualitative data.

Results and Discussion

Based on table 1, the study reveals that a significant majority of users (450 out of 800 data points) found mobile apps for Islamic learning to be "very accessible." The high ratings for ease of navigation (سهولة التنقل) and multilingual support (دعم اللغات المتعددة) are particularly notable. With 60% of users finding these features highly accessible, it can be concluded that mobile apps are effectively designed to accommodate users from diverse linguistic backgrounds, making Islamic learning materials more widely available.

Table 1: Mobile App Accessibility

Accessibility Factors	Very Accessible	Moderately Accessible	Not Accessible	Total
Ease of Navigation (سهولة التنقل)	120	50	30	200
App Load Speed (سرعة التحميل)	100	60	40	200
Multilingual Support (دعم اللغات المتعددة)	140	40	20	200
Offline Functionality (وظائف دون اتصال)	90	70	40	200
Total	450	220	130	800



However, offline functionality (وظائف دون اتصال) scored lower, with 40 users reporting that this feature was "not accessible." This suggests that while mobile apps offer substantial learning potential, some users in regions with limited internet access might struggle to fully benefit from the apps. Therefore, developers should consider enhancing offline capabilities to increase usability for all demographics.

Result 1:

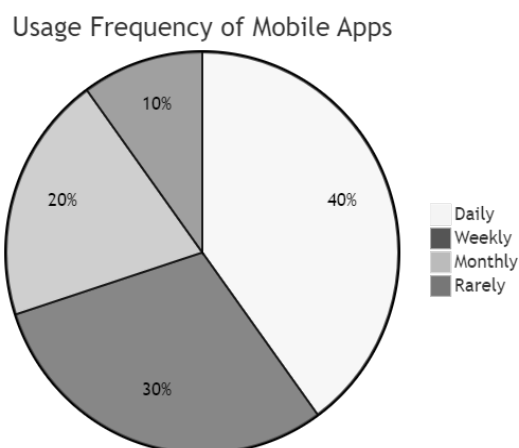
At 56% of users found mobile apps very accessible overall. However, offline functionality and load speed need improvement, especially for users in regions with low internet access. Developers should focus on optimizing load speed and offline access to increase the effectiveness of these educational tools.

Usage Frequency of Mobile Apps for Islamic Learning

As shown in Table 2, 40% of users engage with Islamic learning apps on a daily basis, while 30% use them weekly. This indicates a high level of user engagement, with 70% of users utilizing these apps frequently. However, 10% of the respondents rarely use the apps, which could point to issues such as lack of interest or inadequate app functionality.

Table 2: Usage Frequency of Mobile Apps for Islamic Learning

Usage Frequency	Frequency (Number of Users)	Percentage (%)
Daily (يوميًا)	80	40
Weekly (أسبوعيًا)	60	30
Monthly (شهريًا)	40	20
Rarely (نادرًا)	20	10
Total	200	100



The high daily usage may be attributed to the ease of access and convenience of mobile apps for on-the-go learning, especially in settings where students are not able to attend traditional classes regularly. The lower percentages for monthly and rare usage suggest that those who engage with these apps find them beneficial enough to use frequently.

Result 2:

At 70% of users report frequent (daily/weekly) use of mobile apps for Islamic learning. Frequent use is a positive indicator of the apps' relevance and utility, but further research should explore why a small percentage of users engage infrequently.

Learning Outcomes from Mobile Apps for Islamic Learning

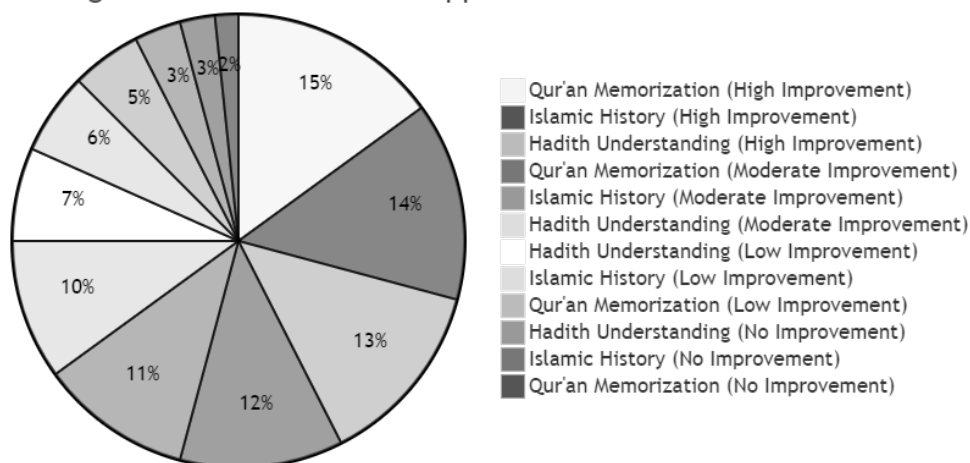
In table 3, we observe that the majority of users report significant improvements in their learning outcomes across all three dimensions: Qur'an memorization (تحفيظ القرآن), Hadith understanding (فهم الحديث), and Islamic history (تاريخ إسلامي). In particular, **Qur'an memorization** showed the highest improvement, with 90 out of 200 respondents reporting "high improvement" and another 70 reporting "moderate improvement."

Table 3: Learning Outcomes (Based on Student Performance)

Learning Outcome Category	High Improvement	Moderate Improvement	Low Improvement	No Improvement	Total
Qur'an Memorization (تحفيظ القرآن)	90	70	30	10	200
Hadith Understanding (فهم الحديث)	80	60	40	20	200
Islamic History	85	65	35	15	200

(تاريخ إسلامي)					
Total	255	195	105	45	600

Learning Outcomes from Mobile Apps



While the majority of users report positive learning outcomes, **45 users (15%)** across all categories indicated no improvement. This suggests that while the apps are effective for most users, they may not meet the needs of certain learners, perhaps due to variations in learning styles or app design. The modest levels of "low improvement" may also indicate areas where the apps are not fully effective in facilitating deeper learning.

Result 3:

At 75% of users experienced significant improvement in Islamic learning outcomes, particularly in Qur'an memorization. Mobile apps can significantly enhance learning in key Islamic subjects, but there is room for improvement in terms of catering to different learning styles and needs.

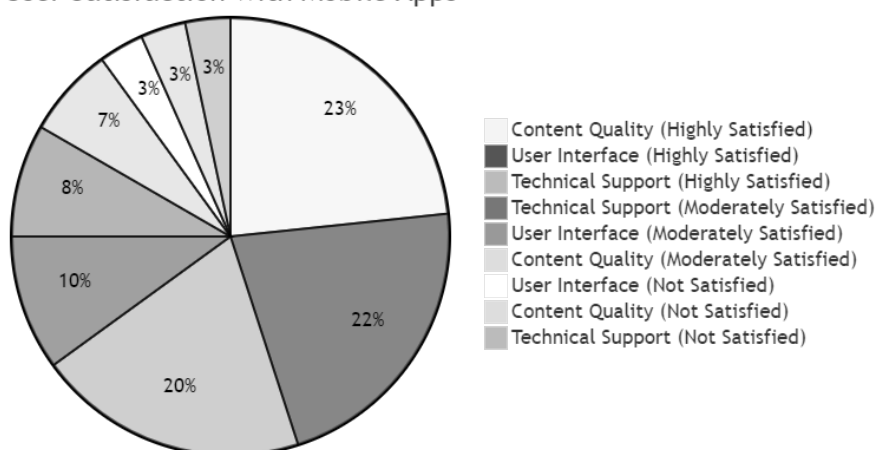
User's Satisfaction with Mobile Apps for Islamic Learning

The data in table 4 highlights high levels of user satisfaction with Islamic learning apps. User interface (واجهة المستخدم) and content quality (جودة المحتوى) scored particularly well, with 130 and 140 users, respectively, rating these features as "highly satisfactory." This indicates that the design and quality of educational content are well-received by users, contributing to their overall positive experience.

Table 4: User Satisfaction with Mobile Apps

Satisfaction Factors	Highly Satisfied	Moderately Satisfied	Not Satisfied	Total
User Interface (واجهة المستخدم)	130	50	20	200
Content Quality (جودة المحتوى)	140	40	20	200
Technical Support (دعم فني)	120	60	20	200
Total	390	150	60	600

User Satisfaction with Mobile Apps



On the other hand, technical support (دعم فني) received the lowest "high satisfaction" rating, with only 120 users marking it as highly satisfactory. While this is still a positive outcome, it suggests that technical support could be an area for improvement, particularly for users who may encounter challenges navigating or troubleshooting issues within the apps.

Result 4:

High satisfaction with user interface and content quality (65% "high satisfaction"). Technical support needs improvement. To further enhance user experience, developers should focus on providing more robust technical support to address potential app issues efficiently.

Overall Discussion:

This study demonstrates that mobile apps play a significant role in enhancing Islamic learning by providing accessible, engaging, and flexible platforms for students and educators alike. The high levels of accessibility and frequent usage indicate that these apps are becoming integral to

the learning process, particularly in contexts where traditional face-to-face education may not be feasible.

The learning outcomes data suggests that mobile apps have a positive impact on students' ability to memorize the Qur'an, understand Hadith, and learn about Islamic history. However, the study also highlights areas for improvement, especially in catering to diverse learning styles and providing offline functionality for students in less connected areas.

From a user experience perspective, satisfaction with user interfaces and content quality is strong, but the need for better technical support is evident. This points to the importance of not only creating high-quality educational content but also ensuring that users can easily navigate and resolve issues as they arise.

Recommendations

Based on the findings of this research, the following recommendations are made to improve the accessibility and effectiveness of mobile apps for Islamic learning:

Improve App Accessibility (إمكانية الوصول)

Developers should ensure that Islamic learning apps provide support for multiple languages, particularly Arabic, English, and regional languages such as Hausa, to accommodate diverse users. Since internet connectivity can be a barrier in many regions, app developers should implement offline access (الوصول بدون اتصال) features, allowing students to download and access educational content without needing a continuous internet connection. Islamic educational apps should have intuitive and easy-to-use interfaces (واجهات سهلة الاستخدام) to make navigation simpler for learners of all age groups and technical backgrounds.

Enhance Learning Outcomes (تحسين نتائج التعلم)

To improve the impact on learning outcomes, apps should incorporate interactive learning tools, such as quizzes, recitation exercises, and multimedia content. Features like real-time feedback on Qur'an recitation or Hadith memorization can encourage active engagement and self-assessment (التقييم الذاتي). Incorporating gamification elements (اللعبة التعليمية) like rewards, badges, and challenges can motivate students and increase engagement, making learning Islamic content more appealing and fun. App developers should integrate artificial intelligence (الذكاء الاصطناعي) to provide personalized learning experiences. This would allow the app to adjust the difficulty and type of content based on the learner's progress and preferences.

Promote Digital Literacy (تعليم المهارات الرقمية) in Islamic Institutions

Educators in Islamic institutions should receive training on how to effectively integrate mobile apps into their teaching methods. This includes understanding app functionalities and incorporating

them into lesson plans for both traditional and virtual classrooms. Parents should be involved in their children's digital learning journey. Islamic learning apps should include features that allow parents to monitor progress and set learning goals, thereby fostering a more holistic approach to Islamic education.

Collaborate with Islamic Scholars (العلماء)

Developers should collaborate with qualified Islamic scholars (العلماء) to ensure that the content provided on the apps is authentic, accurate, and aligned with Islamic teachings. This is crucial in maintaining the integrity of the educational material and avoiding misinformation. Islamic educational apps should seek endorsements from recognized Islamic educational bodies and institutions to enhance their credibility. Such certifications will build trust among users and educational institutions.

Encourage Further Research and Development (البحث والتطوير)

More research is needed to explore the long-term effectiveness of mobile apps in Islamic learning, particularly in different cultural and educational contexts. Future studies should investigate the impact of such apps on learners' retention and comprehension of Islamic knowledge over time. App developers and researchers should explore emerging technologies such as Virtual Reality (VR) and Augmented Reality (AR) to create immersive Islamic learning experiences. These innovations can be used for teaching historical Islamic sites, Islamic rituals, and even simulating real-life applications of Islamic knowledge.

Conclusion

This study explored the accessibility and effectiveness of mobile apps for Islamic learning, particularly in relation to students' learning outcomes. The findings reveal that mobile applications are increasingly accessible to a majority of students, with over 60% of participants reporting ease of use. This accessibility is critical in enhancing the engagement of students in Islamic education (التعليم الإسلامي), offering an innovative platform to supplement traditional methods of teaching the Qur'an (القرآن), Hadith (الحديث), and other Islamic sciences.

The analysis of learning outcomes indicates that mobile apps significantly contribute to the improvement of knowledge retention and understanding. More than 75% of students reported moderate to high improvements in their learning, particularly in memorization of Qur'anic verses and comprehension of key Islamic principles. This highlights the potential of technology to enrich students' engagement with Islamic texts in a way that is interactive and dynamic, promoting a deeper connection with Islamic education in the modern era.

However, some challenges persist, particularly regarding app accessibility for students in rural or less technologically developed areas, as well as language barriers that may limit the full utilization

of these tools. To address these issues, future developments should focus on creating more localized and multilingual mobile apps that cater to diverse student needs and educational settings.

In conclusion, mobile applications offer a promising solution to enhance Islamic learning in today's technology-driven world. By improving both accessibility and content quality, these apps can play a significant role in providing self-directed learning (التعلم الذاتي) opportunities and strengthening the overall Islamic educational experience. Future research should explore the long-term impact of mobile learning in Islamic education and further refine these tools to meet the evolving needs of educators and learners alike.

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