

Improving Student Accessibility and Engagement with Applications as Learning Media in the Digital Era

Hamdani¹, Abdul Rahman^{2*}, Haidah³

Politeknik Negeri Samarinda¹²³, Samarinda, Indonesia

hamdani@polnes.ac.id^{*1}, Abdulrahmanarsyad11@gmail.com², haidahkarani2@gmail.com³

Informasi Artikel

E-ISSN : 3026-6874
Vol: 2 No : 10 October 2024
Page : 24-28

Abstract

This research aims to improve student accessibility and engagement in Islamic religious education through the development of a mobile application named AGAMIS (Aplikasi Gawai Mahir Agama Islam). The study was conducted at the Department of Business Administration, Politeknik Negeri Samarinda, focusing on Generation Z students who are highly accustomed to digital technologies. Using the ADDIE model for instructional design, the research adopted a Research and Development (R&D) approach to create an interactive platform offering features such as learning materials, quizzes, and discussion forums. After implementation and testing, the results showed a significant increase in student participation, motivation, and understanding, with 70% of the students demonstrating improved comprehension of the course content. This suggests that AGAMIS is an effective tool for enhancing student engagement in religious education. The findings contribute to the ongoing efforts in integrating technology in education, especially in the context of Islamic studies, and provide a foundation for future research in developing digital learning media.

Keywords:

Learning Application
Islamic Religious Education
Generation Z

Abstrak

Penelitian ini bertujuan untuk meningkatkan aksesibilitas dan keterlibatan mahasiswa dalam pendidikan agama Islam melalui pengembangan aplikasi mobile bernama AGAMIS (Aplikasi Gawai Mahir Agama Islam). Studi ini dilakukan di Jurusan Administrasi Bisnis, Politeknik Negeri Samarinda, dengan fokus pada mahasiswa Generasi Z yang sangat terbiasa dengan teknologi digital. Menggunakan model desain instruksional ADDIE, penelitian ini mengadopsi pendekatan Research and Development (R&D) untuk menciptakan platform interaktif yang menawarkan fitur-fitur seperti materi pembelajaran, kuis, dan forum diskusi. Setelah implementasi dan pengujian, hasil menunjukkan peningkatan signifikan dalam partisipasi, motivasi, dan pemahaman mahasiswa, dengan 70% mahasiswa menunjukkan peningkatan pemahaman terhadap konten mata kuliah. Hal ini menunjukkan bahwa AGAMIS merupakan alat yang efektif untuk meningkatkan keterlibatan mahasiswa dalam pendidikan agama. Temuan ini berkontribusi pada upaya integrasi teknologi dalam pendidikan, khususnya dalam konteks studi Islam, dan memberikan dasar untuk penelitian lebih lanjut dalam pengembangan media pembelajaran digital.

Kata Kunci : Aplikasi Pembelajaran, Pendidikan Agama Islam, Generasi Z

INTRODUCTION

The era of the industrial revolution 4.0 and digital disruption has changed various aspects of life, including education (Hamdani & Rahman, 2023). Education 4.0 utilizes digital technology as the main basis for the teaching and learning process. The use of digital technology, such as online learning and mobile applications, drives transformation in various educational institutions. This presents a challenge for lecturers and educational institutions to adapt to technology, especially in creating effective and interactive learning media.

As stated by (Prensky, 2020) "the digital native generation requires different teaching methods, where technology becomes the main driver of student learning and engagement". This shows that generation Z students are more responsive to technology-based learning approaches, and require media that fits their daily digital habits.

Nowadays, students classified as generation Z or iGeneration . In line with what was said (Alruthaya et al., 2021) , that " Generation Z consists of people born between 1995-2010". Generation Z is a digitally savvy and passionate generation will technology information and various application computer (David Stillman, 2018) (Hamdani, 2021) . They are very close in use gadgets and the internet. Based on the latest data on the use of devices to access the internet in Indonesia, the Digital 2023 report shows that the most commonly used device is a smartphone. According to the report, 92% of internet users in Indonesia access the internet using mobile devices, and only 8% use desktop devices. This shows an increasing trend in the use of mobile devices among the younger generation, including Generation Z, who grew up in a digital environment (Alimuddin & Poddala , 2023) .

In the Business Administration Department, Samarinda State Polytechnic, it was found that the availability of digital-based learning media, especially for Islamic Religious Education courses, was not optimal. Generation Z, which is the majority of students today, has digital native characteristics who are accustomed to using gadgets in their daily lives. They are more responsive to technology-based learning methods (Rosa et al., 2024) .

According to (Mubarok, 2022) "today's digital technology is not just a tool, but also a new educational ecosystem where learning can take place anytime and anywhere, without being limited by space and time. This further emphasizes the importance of developing technology-based learning media, such as the AGAMIS application (Islamic religious expert gadget application), which can support the process of learning Islam flexibly and interactively.

In addition, (Alamsyah et al., 2021) emphasized that "the use of universal design for learning in the digital era helps reach more students with various needs, including those with limited access to technology". This is relevant to the development of AGAMIS which aims to ensure inclusivity and accessibility in religious learning at the Samarinda State Polytechnic.

METHOD

This research method uses a Research and Development (R&D) approach with the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) development model (Ibrahim Maulana Syahid et al., 2024) . The research stages begin with an analysis of the needs of students and lecturers in the Business Administration Department of Samarinda State Polytechnic, followed by the design of the AGAMIS application (an Islamic religious expert gadget application) which contains interactive features such as learning materials, quizzes, and discussion forums. This application was developed through functional testing, with the aim of increasing student participation in technology-based learning. The ADDIE development design is used because it provides a systematic structure and allows for continuous evaluation during the development process, as emphasized by (Muhammad Yasin et al., 2024) in the context of developing technology-based educational products.

Implementation and evaluation were conducted through small and large-scale student trials, where the AGAMIS application was tested to measure its effectiveness in improving student understanding and engagement in the learning process. The evaluation included analysis of application usage and feedback from students to ensure that the application met the expected educational objectives. This dual evaluation approach is important to ensure the relevance and sustainability of the application, in accordance with the principles of digital learning evaluation .

RESULTS AND DISCUSSION

This study successfully developed the Islamic Religious Expert Gadget Application (AGAMIS) as a digital-based learning media in the Islamic Religious Education course at the Business Administration Department, Samarinda State Polytechnic. This application is designed to overcome the problems of limited digital-based learning media and low student participation in religious activities. After implementing the application, the trial results showed a significant increase in student engagement and learning effectiveness. As stated by Mohamad et al. (2020), "digital technology-based learning can increase student engagement in the learning process and result in better academic achievement. This application not only functions as a teaching medium, but also as a tool to measure student participation and academic progress through real-time evaluation features (Andriani et al., 2022) .

The evaluation results of the application testing on 30 students showed that 70% of students felt an increase in understanding of the material after using the AGAMIS application, with 80% of students feeling more motivated to attend lectures. This is in line with the findings of (Dhiya Rahma et al., 2024) (Hamdani, 2021) which states that the use of interactive digital technology in education can increase students' learning motivation. In addition, the discussion feature in the AGAMIS application allows for more intense collaboration between students, which is in line with the findings (Awidi & Paynter, 2022) that collaboration through digital platforms increases student engagement and understanding.

Table 1. Results of Evaluation of the Use of the AGAMIS Application

Evaluation Aspects	Before Use of AGAMIS (%)	After Use of AGAMIS (%)
Understanding the Material	45%	70%
Motivation to learn	50%	80%
Involvement in Discussion	40%	75%
Participation in Religious Activities	35%	65%

This increase in student engagement and understanding can also be seen from the frequency of use of features in the AGAMIS application. Digital learning platforms that provide collaboration and automatic evaluation features are more effective in improving student learning outcomes (Sharma et al., 2024) (Sanda, 2024) . Qualitative evaluation of interviews with students also showed that they felt more comfortable learning with digital media that was flexible and accessible anytime and anywhere, which supports the results of previous research by Prensky (2020) on Generation Z's preferences for technology-based learning.

CONCLUSION

This study successfully developed the Islamic Religious Expert Gadget Application (AGAMIS) as an effective digital-based learning media to increase student involvement and understanding in the Islamic Religious Education course at the Business Administration Department, Samarinda State Polytechnic. The use of the AGAMIS application has been proven to be able to overcome the limitations of digital-based learning media and increase student participation in religious activities, with interactive features such as learning materials, quizzes, and discussion forums that support independent and collaborative learning.

The trial results showed that 70% of students experienced an increase in understanding of the material and 80% of students were more motivated to attend lectures after using AGAMIS. This application not only improves understanding of the material but also allows real-time evaluation (Khoir, 2024). This helps lecturers monitor students' academic progress. Therefore, the AGAMIS application can be used as a model for developing digital-based learning media for other courses, and is expected to continue to be developed to improve the quality of education in the digital era.

REFERENCES

- Alamsyah, D., Prabawat, G., & Kusumastuti, G. (2021). Implementasi Universal Design for Learning dalam Meningkatkan Aksesibilitas Pembelajaran untuk Semua Peserta Didik. *Jurnal Ilmiah Pendidikan Dan Pembelajaran*, 8(1), 79–90.
- Alimuddin, M., & Poddala, P. (2023). Prospek Digital Marketing Untuk Generasi Muda Dalam Berwirausaha. *Journal of Career Development*, 1(1), 54–70.
- Alruthaya, A., Nguyen, T.-T., & Lokuge, S. (2021). *The Application of Digital Technology and the Learning Characteristics of Generation Z in Higher Education* (Version 1). arXiv. <https://doi.org/10.48550/ARXIV.2111.05991>
- Andriani, A. D., Awaludin, R., Muzaki, I. A., Pajariantio, H., Himawan, I. S., Hamdani, H., Latif, I. N. A., Nugroho, R. S., & Imaduddin, M. (2022). *Pendidikan Agama Islam di Era Disrupsi* (Cetakan Pertama Juni 2022). Tohar Media.
- Awidi, I. T., & Paynter, M. (2022). An Evaluation of the Impact of Digital Technology Innovations on Students' Learning: Participatory Research Using a Student-Centred Approach. *Technology, Knowledge and Learning*. <https://doi.org/10.1007/s10758-022-09619-5>
- David Stillman, J. S. (2018). *Generasi Z: Memahami Karakter Generasi Baru yang Akan Mengubah Dunia Kerja* (2nd ed.). Gramedia Pustaka Utama.
- Dhiya Rahma, Nada Nupus Ihwani, & Nadila Sofia Hidayat. (2024). Pengaruh Penggunaan Media Digital Sebagai Media Interaktif Pada Pembelajaran Dalam Meningkatkan Motivasi Belajar Siswa. *ENGANG: Jurnal Pendidikan, Bahasa, Sastra, Seni, Dan Budaya*, 4(2), 12–21. <https://doi.org/10.37304/enggang.v4i2.13298>
- Hamdani, H. (2021). Peningkatan Motivasi Belajar dan Pengetahuan Peserta Didik: Penerapan Mobile Learning pada Mata Pelajaran Pendidikan Agama Islam. *Jurnal Pendidikan Agama Islam Al-Thariqah*, 6(2), Article 2. [https://doi.org/10.25299/al-thariqah.2021.vol6\(2\).7970](https://doi.org/10.25299/al-thariqah.2021.vol6(2).7970)
- Hamdani, H., & Rahman, A. (2023). SUNNAH PERSPECTIVE CHARACTER EDUCATION METHODS IN SHAHIH BUKHARI. *International Journal of Educational Review, Law And Social Sciences (IJERLAS)*, 3(1), 177–188.
- Ibrahim Maulana Syahid, Nur Annisa Istiqomah, & Azwary, K. (2024). Model Addie Dan Assure Dalam Pengembangan Media Pembelajaran. *Journal of International Multidisciplinary Research*, 2(5), 258–268. <https://doi.org/10.62504/jimr469>
- Khoir, Q. (2024). Smart Classrooms: Mengintegrasikan IoT dan AI untuk Pembelajaran yang Lebih Interaktif dan Terukur. *Andragogi: Jurnal Pendidikan Dan Pembelajaran*, 4(1), 1–10. <https://doi.org/10.31538/adrg.v4i1.1301>

- Mubarok, F. S. (2022). PEMANFAATAN NEW MEDIA UNTUK EFEKTIVITAS KOMUNIKASI DI ERA PANDEMI. *Jurnal Ilmiah Komunikasi Makna*, 10(1), 28. <https://doi.org/10.30659/jikm.v10i1.20302>
- Muhammad Yasin, Muhammad Yaumi, & Azhar Arsyad. (2024). Taksonomi Model-Model Desain Teknologi Pembelajaran. *Journal of International Multidisciplinary Research*, 2(5), 372–379. <https://doi.org/10.62504/jimr488>
- Prensky, M. (2020). *Teaching digital natives: Partnering for real learning*. Corwin Press.
- Rosa, E., Destian, R., Agustian, A., & Wahyudin, W. (2024). Inovasi Model dan Strategi Pembelajaran dalam Implementasi Kurikulum Merdeka: Inovasi Model dan Strategi Pembelajaran dalam Implementasi Kurikulum Merdeka. *Journal of Education Research*, 5(3), 2608–2617. <https://doi.org/10.37985/jer.v5i3.1153>
- Sanda, M.-A. (2024). Impact of digitised ‘teaching-learning’ virtual platforms on tertiary students’ learning objectives and teaching outcomes. *Theoretical Issues in Ergonomics Science*, 25(2), 192–208. <https://doi.org/10.1080/1463922X.2022.2161114>
- Sharma, K., Nguyen, A., & Hong, Y. (2024). Self-regulation and shared regulation in collaborative learning in adaptive digital learning environments: A systematic review of empirical studies. *British Journal of Educational Technology*, 55(4), 1398–1436. <https://doi.org/10.1111/bjet.13459>