

# TRANSFORMATION OF ISLAMIC AND CHARACTER EDUCATION LEARNING FOR THE URBAN MUSLIM GENERATION: A STUDY OF DIGITAL MODULE DEVELOPMENT IN ACEH

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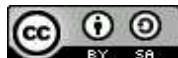
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## Abstract

Islamic and character education learning among urban Muslim students is facing serious challenges, such as low digital literacy, limited access to devices and the internet, as well as a scarcity of media suitable for the characteristics of digital generation. Therefore, this study aimed to develop a relevant and interactive flipbook-based digital module with Islamic character values to enhance the effectiveness of learning in the technological era. SMA Negeri 13 Banda Aceh was used because the Senior High School implemented Islamic law not found in other schools in Indonesia. The method applied was consistent with the Alessi and Trollip model, which included planning, design, and development. Additionally, this developmental study comprised learning module, in digital format, produced using Flip PDF Corporate Edition Version 2.4.10.3 in line with the Merdeka curriculum. Digital module was considered very feasible, with a percentage of 88.20% based on evaluations from material and media experts. According to the assessment of teachers and students, module was also very practical, with a rate of 91.59%. The results showed that development of digital-based Islamic and character education learning in Banda Aceh City secondary schools, in the form of digital module at SMA Negeri 13 Banda Aceh, was feasible and practical for use in learning. Digital module solved student learning problems in urban Muslim society by providing access to relevant, easy-to-use, and contextual materials to address the challenges of religious life in urban areas. Moreover, the results report the distinction of Islamic education by emphasizing the integration of values in the context of modern life through an adaptive and contextual digital method.

**Keywords:** Education; Module; Digital; Urban Muslim Students

### A. Introduction

Education is the prerequisite required to shape the personality and intelligence of the urban Muslim students (Oviana et al., 2022, p. 150). In the era of the Industrial Revolution 4.0 and Society 5.0, Islamic and character education teachers should teach the use of digital learning to increase the skill and competitiveness of the urban Muslim students (Putri et al., 2022, p. 1127). Therefore, this study reported the need for digital-based learning obtained from the needs of students and teachers on October 13, 2023. At SMA Negeri 13 Banda Aceh, Islamic and character education learning relies on textbooks provided by the government. Students show a need for additional learning resources through digital platforms relevant to the context of contemporary urban society. The integration of digital module is considered crucial in addressing the challenges of education in an increasingly digitalized urban Muslim society. This transformation requires the support of school policies, digital competence from teachers and students, and the readiness of the information technology infrastructure.

Digital information often lacks rigorous verification processes and is subject to significant risk. This is particularly concerning since the primary beneficiaries are urban Muslim students. The object of analysis is focused on urban students in an environment with a high intensity of exposure to digital technology. Therefore, an adaptive and contextual learning method is required to equip students with Islamic values among a more complex flow of modernization compared to non-urban areas. A grand tour was also carried out to identify interesting patterns or relationships between variables in large and complex datasets. In addition, a systematic review was performed to explore similar analyses on development of digital-based learning in Banda Aceh City secondary schools, drawing on relevant previous studies to avoid repetition or duplication. Literature analyses were conducted using Publish or Perish 8 software, accessed through the Google Scholar and Scopus databases, with a focus on Open Journal System-based journals to ensure the quality and relevance of the publications.

Relevant previous studies were conducted by R. Linda (Linda et al., 2020), Nita Sunarya Herawati (Herawati & Muhtadi, 2018), Andi Nurwasiawati Kamaruddin (Kamaruddin et al., 2021), Rifa Efendi (Efendi & Wiyatmo, 2021), Widya An Nisa Mukramah, Misbahul Jannah, and Mulyadi Abdul Wahid (Mukramah et al., 2020). Some of the studies reported that the use of digital technology in learning simplified the tasks of teachers and facilitated a more creative learning process, while prioritizing the achievement of student competencies (Dwitayanti et al., 2022, p. 94).

Most of the studies on digital teaching materials are focused on specific subjects or use standard Research and Development (R&D) models, such as ADDIE and Borg & Gall, without considering the dynamics of digitized urban Muslim society. This situation shows a significant study-theoretical gap, characterized by the following (1) There is a deficiency of Islamic and character education (PAI-BP) module explicitly adapting the content to address digital literacy requirements of Muslim students in urban school environments. (2) Limited empirical investigations have evaluated alternative development models, such as the Alessi-Trollip method integrated with the Design-Development Research (DDR) for the production of non-print media. (3) There is limited critical study examining the conceptualization of moral content, particularly the avoidance of blameworthy (*madzmumah*) morals and the cultivation of praiseworthy (*mahmudah*) morals, to resonate with the lifestyle, religious practices, and challenges prevalent among Muslim students in large urban centers.

From the practical-knowledge gap perspective, schools in urban centers, such as

SMA N 13 Banda Aceh, still use face-to-face learning that relies on government textbooks. In this context, students are accustomed to accessing knowledge through gadgets and applications. This study presents digital PAI-BP module based on the Merdeka Curriculum, designed using the Alessi-Trollip model as an offline and digital solution. The formulation of an intuitive interface design integrates the P5 (Pancasila Student Profile Strengthening Project) and instills contextual Islamic values for urban Muslim students. This study fills the gap in the literature and provides a prototype for other urban Muslim schools, creating an opportunity for further examination of digital module on the character formation and literacy of Generation 5.0.

Learning experience of students can be enriched by using educational materials and online platforms. Therefore, teachers need to possess the skills to design and develop learning activities actively supporting student engagement (Iskandar et al., 2021, p. 96). Current technology enables learning to be independent of time and place, allowing students to access materials from any location. Digital module integrated with technology facilitates access, offers an attractive appearance, and encourages students to learn the material more enthusiastically and deeply (Utami et al., 2021, p. 6301). Teachers are expected to create learning experience with module integrated with technology (Oviana et al., 2023, p. 160). Different digital tools and applications can be used, including multimedia content, interactive quizzes, online discussions, automated assessment methods, and online assignments. However, the success of technology as a tool depends on the ability and creativity of teachers in achieving student competencies.

In the context of the increasingly digitalized urban Muslim society, learning books have become an urgent need related to efficiency of access and flexibility of time (Sutoto, 2020, pp. 147-149). Even though printed books retain the advantage of reduced eye strain and freedom from distractions, digital books offer substantial benefits, including enhanced ease of information retrieval, the integration of multimedia elements (such as audio and video), broader distribution capabilities, and considerable savings in both cost and natural resources (Makdis, 2020, pp. 81-82). Among the challenges of expensive printed books and rapid curriculum changes, digitalization is a strategic solution to reduce the economic burden on parents and answer digital literacy needs of Muslim students in urban environments (Kurniawati et al., 2012). Therefore, development of digital module based on Islamic values is educational innovation and a contextual response to changes in learning culture of urban Muslim society.

Banda Aceh City was selected due to the uniqueness and significant potential for implementing Islamic law (kaffah). This presents a unique advantage, or distinctive characteristic, not found in other cities in Indonesia. The implementation of Islamic law in Aceh has a greater opportunity, specifically after the issuance of Law Number 44 of 1999 concerning the Implementation of the Special Status of the Special Region of Aceh Province, Number 18 of 2001 concerning Special Autonomy for the Special Region of Aceh Province as the Province of Nanggroe Aceh Darussalam, and Number 11 of 2006 concerning the Government of Aceh provide a solid legal basis for Aceh to implement Islamic law in its entirety (Yunus et al., 2023, p. 182). These regulations solidify the position of Aceh as a region with special autonomy, enabling the comprehensive implementation of Islamic law and providing legal legitimacy that is not possessed by other provinces.

This development study aimed to design and produce digital module for feasible, practical, and effective Islamic Religious and Character Education in response to learning needs at SMA Negeri 13 Banda Aceh. The objective referred to the

formulation of problems related to the transformation of digital-based learning in the context of urban Muslim society facing the challenges of modernization and digitalization. Specifically, this study aimed to bridge the gap between pure and applied analyses by producing a tangible product in the form of digital module used directly in schools. Module was expected to support the internalization of Islamic values contextually and adaptively in response to the dynamics of an increasingly digitally connected urban society. Therefore, this study holds significance in addressing the following critical question, "How can development process of digital module for Islamic and character education (PAI-BP) be rendered feasible, practical, and effective for students at SMA Negeri 13 Banda Aceh? This question must be answered because urban Muslim society is facing a major challenge in maintaining Islamic values following the massive flow of digitalization. Concrete solutions are produced in the form of contextual and relevant digital module for the characteristics of urban students accustomed to technology. This is important to ensure that religious education remains relevant and can shape Islamic character in complex modern life.

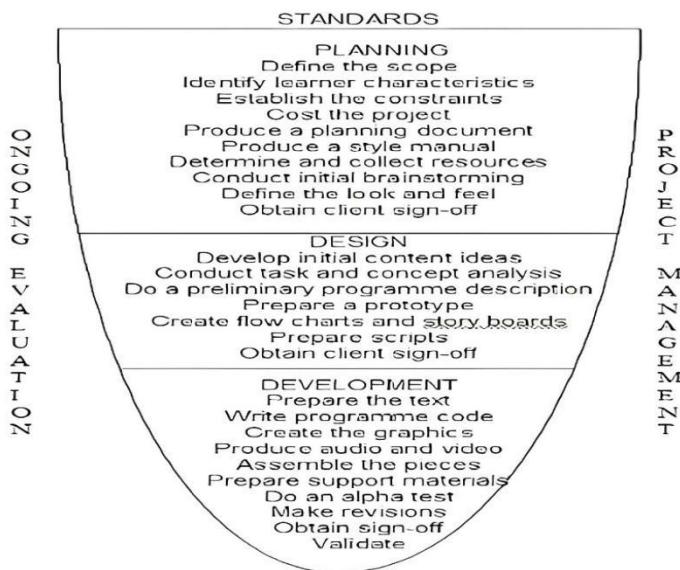
## B. Methods

This study was conducted in high schools in Banda Aceh City, specifically among students at SMAN 13 Banda Aceh, using development procedure based on the Alessi and Trollip model. The selected model offered a systematic and flexible framework for development, including the planning and designing of effective digital (non-print) learning products. This model was relevant to address the needs of urban Muslim society by integrating Islamic values and technological methods in PAI-BP.

Alessi and Trollip's instructional design consisted of three attributes and stages. The three attributes included standards, ongoing evaluation, and project management. Development model was considered appropriate for a study on Islamic religious and character education for urban Muslim students (Mulyono & Elly, 2023, p. 73). The planning included the determination of goals and direction of development. Meanwhile, the design related to the initial content development comprised the introduction of the program, as well as the production of prototypes, flowcharts, and storyboards. The product development phase constituted the implementation of the design stage.

This study used the Design Development Research (DDR) method, as developed by Rita C. Richey and James D. Klein (Richey & Klein, 2007), to examine products (Jannah & Qusaiyen, 2020). Additionally, the model was well-suited for development of non-print learning multimedia, offering a structured and detailed method. This ensured that the materials created were consistent with learning needs and effectively conveyed information to the intended audience.

The product was digital module for the subject of PAI-BP at SMA Negeri 13 Banda Aceh, in the Even Semester. The theme avoided and adopted *madzmumah* and *mahmudah* morals for a comfortable and blessed life, using the Flip PDF Corporate Edition application, Version 2.4.10.3.



Alessi and Trollip Development Model Image (Alessi & Trollip, 2001)

The subject of development comprised alpha testing conducted by 6 material and 8 media experts from UIN Ar-Raniry Banda Aceh and Universitas Syiah Kuala. Meanwhile, the beta test included 1 PAI-BP teacher of class 10 of SMA Negeri 13 Banda Aceh, and 14 students from grade 10-IPAS 2.

The study instruments were key components, functioning as tools to measure, evaluate, or collect data (Agustina, 2017, p. 65). This was related to digital module of PAI-BP for grade 10, Semester 2, at SMA Negeri 13 Banda Aceh, developed as part of the study. This instrument ensured that the created products were in line with the standards required and provided the expected benefits to students. The instruments used included 1) Student Needs Questionnaire Instrument (Need analysis), 2) Instrument Validation Instrument designed to obtain valuable input from experts, and 3) Expert Validation Instrument used to obtain data on the opinions of experts regarding digital module developed based on the initial learning design plan.

### C. Findings and Discussion

#### 1. Findings

The concept of digital-based PAI-BP learning starts from the integration of moral material into interactive module using hyperlinked text, video, and sound. Learning process becomes multimodal and easily accessible through students' gadgets. The instructional design emphasizes that students can explore Islamic values in the context of rapidly changing urban life. Digital module functions as a content repository and learning ecosystem that combines religious literacy, digital literacy, and 21st-century competencies.

The impact on students is evident in increased motivation and engagement since the interactive format stimulates curiosity and enables personalization of learning pace and style. Formative assessment and digital reflection encourage students to link Islamic concepts to everyday experiences, strengthening the internalization of values and critical thinking skills. Previous studies showed a shift in the role of teachers from content transmitters to learning facilitators, leading to a more dialogic and student-centered pedagogical relationship. However, full implementation faces three main challenges, namely (1) limited infrastructure, ranging from stable internet availability

to adequate devices, specifically for students from low-income families, (2) digital competency gap among teachers who are not accustomed to producing or curating multimedia content, (3) and the potential for digital distractions that require the instillation of learning discipline based on Islamic values. Overcoming strategies include the provision of offline access through lightweight, application-based module, ongoing training programs, and implementing digital mindfulness and media ethics in line with Islamic principles. By anticipating the obstacles, digital-based Islamic education can become a great opportunity to shape the character of literate, adaptive, and integrated urban Muslim students.

Development of digital-based Islamic religious and character education learning in secondary schools was conducted at SMA Negeri 13 Banda Aceh, using development method established by Alessi and Trollip. The outcome of this study and development was a product in the form of digital module for the PAI-BP subjects. This digital module was designed with the theme " avoiding *madzmumah* morals and adapting to *mahmudah* for a comfortable and blessed life." Furthermore, development of digital module was completed through the Flip PDF Corporate Edition Version 2.4.10.3 application, facilitating the compilation of multimedia content in an attractive and interactive design.

This module provided complete and useful material for urban Muslim students in understanding the concept of Islamic religious education and morals. The focus was on efforts to improve understanding and help students internalize the values of avoiding *madzmumah* morals and adopting *mahmudah* in everyday life.

The details of development process were divided into 3 stages, namely planning, designing, and development (Alessi & Trollip, 2001). Module met the needs and expectations of urban Muslim students appropriately and practically by completing all the stages.

Development of digital-based PAI-BP in Banda Aceh City secondary schools, specifically in urban Muslim areas based on Sharia, was a novelty. This initiative was implemented at SMA Negeri 13 Banda Aceh, in line with the Merdeka Curriculum, containing the P5 program (Azizah et al., 2023, p. 24). Learning enriched the experience of the urban Muslim students through the integration of technology in Islamic religious and moral education. Students also accessed PAI-BP Learning materials dynamically and enjoyably by using various digital applications and platforms.

Learning materials in the PAI-BP digital module avoided *madzmumah* morals and adapted to *mahmudah* for a comfortable and blessed life. This module used Flip PDF Corporate Edition Version 2.4.10.3, which had an HTML5 base (Susanti & Sholihah, 2021, p. 39) and was equipped with attractive features to facilitate active learning (Dewi et al., 2023, p. 281). The Flip PDF Corporate Edition version 2.4.10.3 feature enables users to create, edit, and customize digital content according to specific needs to design attractive and interactive digital module.

The results of developing digital-PAI-BP learning in Banda Aceh City secondary schools, specifically at SMA Negeri 13 Banda Aceh, were presented in the form of a feasible and practical digital module. This module was based on the assessment results of material and media experts to confirm the feasibility. According to the alpha test, the assessments from media and material experts were 84.81% and 91.60% in the very feasible category. Development of digital-based PAI-BP learning was deemed very feasible, with a percentage of 88.20%. However, digital module was subjected to revisions according to the suggestions of the validator to achieve optimal results.

The module was considered practical based on a questionnaire from users, specifically part of the urban Muslim students. The assessment of the PAI-BP digital

module material on avoiding *madzmumah* morals and adapting to *mahmudah* for a comfortable and blessed life was categorized as very practical, with a percentage of 91.59%.

## 2. Discussion

R. Linda (Linda et al., 2020), Nita Sunarya Herawati (Herawati & Muhtadi, 2018), Andi Nurwasiawati Kamaruddin (Kamaruddin et al., 2021), Rifa Efendi (Efendi & Wiyatmo, 2021), Widya An Nisa Mukramah, Misbahul Jannah, and Mulyadi Abdul Wahid (Mukramah et al., 2020) worked extensively on development of digital teaching materials. However, the majority focus on exact subjects and use general development models such as ADDIE or Borg & Gall. This shows a tendency to overlook a more contextual method in developing digital module for subjects aimed at instilling values, such as Islamic and character education (PAI-BP). Therefore, the relevance of content to the social dynamics and religiosity of urban Muslim students in urban areas has not been explicitly accommodated in previous development products.

This study presented a novel method by combining the Alessi-Trollip model and the Design-Development Research (DDR) method to develop digital PAI-BP module for the context of urban Muslim students. This module is based on interactive multimedia and designed to internalize moral values through narratives close to the daily reality of urban youth. Academic debates, specifically regarding the effectiveness of digital-based method, replace value-based learning based on direct role models from teachers.

A contextual solution was presented as a follow-up to the gap in previous studies to address the needs of PAI-BP learning relevant to the lives of Muslim students in urban areas. This study was in the form of developing digital-based PAI-BP learning to enrich the experience of students through the integration of technology. Learning materials were accessed more dynamically and enjoyably through digital applications and platforms. Additionally, digital-based method also allowed for more interactive and collaborative learning between teachers and students, as well as facilitating a deeper understanding of Islamic education and development of good character values.

The digital module used the Independent Curriculum program, which included the Pancasila Student Profile Strengthening Project (P5). This newly implemented innovation in Grade 10 focuses on the goals, opportunities, obstacles, and challenges related to students' character development. P5 is expected to achieve good and maximum learning outcomes (Choirunisa1 et al., 2021, p. 1). Regarding the implementation, the indicators in PAI-BP learning include a. Faithful, devoted to God Almighty, and noble character, b. Critical thinking, c. Collaborative, d. Creative, e. Independent, and f. Global diversity (Azizah et al., 2023). The Pancasila Student Profile indicators are used to shape students under Pancasila values.

The Digital-Based PAI-BP Learning Module in high schools in Banda Aceh City, with development location at SMA Negeri 13 Banda Aceh, was developed using Flip PDF Corporate Edition Version 2.4.10.3. This application allowed teachers to create digital books in the HTML5 model published online (Susanti & Sholihah, 2021). The use of Flip PDF Corporate Edition Version 2.4.10.3 was very easy, did not require high programming languages, and possessed interesting features (Dewi et al., 2023). These features enabled users to create, edit, and customize digital content according to specific needs for developing engaging and interactive digital module.

The digital module converted into an Android file (.apk) was very suitable for use in schools with limited laptops or computers in the multimedia laboratories. An independent study can also be carried out by installing the application on respective

Android smartphones. Learning material teaches the importance of replacing temperamental traits (*ghadab*) with attitudes that enhance self-control behavior. PAI-BP is centered on theoretical understanding and practical actions that reflect religious teachings (Herman & Idris, 2019, p. 169). Anger management, self-control, and other related skills are considered in this module. Students are expected to incorporate religious values into daily lives and learn about individual and social piety. PAI-BP teaching includes efforts to create harmony and balance in the relationships between humans, other creatures, the natural environment, and Allah SWT (Ansori, 2023, p. 34). This relationship is evident in harmony within human life and lies in the balance between humans as well as internal and external elements. PAI-BP helps students learn to read and practice the teachings of the Qur'an and Hadith properly. Generally, this module is known for education in reading and practicing the contents of the Qur'an properly and correctly while releasing greed, egoism, and hatred (Susongko, 2019, p. 81). Reading and reciting verses of the Qur'an related to restraining anger, self-control, and the courage to defend the truth are essential for providing focus on reading, understanding, and applying the values in everyday life. Teachers should possess a combination of soft and hard skills, alongside an inner disposition characterized by patience, calmness, integrity, dignity, legal understanding, diligence in worship, and piety (Susongko, 2019). Different abilities and broad perspectives are required to become teachers in PAI-BP.

Digital module for Banda Aceh City high schools offers numerous advantages but presents limitations regarding accessibility. Therefore, further studies should be conducted to enhance the accessibility of digital module and enable compatibility with a wider range of operating systems, such as Apple's iOS and macOS for iPhones and Macintosh computers, as well as laptops and other personal computers. This is because some of the device brands have difficulty accessing module. Additionally, an application must be developed to directly access the Google Play Store or the Android app market to simplify the installation process.

#### **D. Conclusion**

In conclusion, development of digital-based PAI-BP learning module at SMA Negeri 13 Banda Aceh has successfully created feasible and practical learning media that are relevant to the lives of urban Muslim students. This digital module combines various multimedia elements, including text, video, and sound, to support multimodal learning as well as stimulate student motivation and engagement. Moreover, module has been proven to be feasible and practical for use, based on expert and user assessments. Moral values oriented toward character formation can also be internalized with the Pancasila Student Profile.

This study faces limitations in internet access and device availability since most students have smartphones with limited connectivity. Additionally, module application is compatible with Windows and Android operating systems. Limited digital skills and less comprehensive evaluation also affect the quality of module development. Differences in digital literacy levels among teachers and students pose challenges addressed through intensive communication to ensure the program runs smoothly. As a suggestion, development of digital module must be improved in terms of accessibility to enable use on various devices, including Apple products, and an application version easy to download from official platforms, such as the Google Play Store. Ongoing training for teachers and development of digital mindfulness strategies need to be prioritized to ensure that digital-based learning is effective and in line with Islamic values in shaping the character of Muslim students.

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### F. Author Contributions Statement

Several authors collaborated to develop ideas and address issues related to the topic. DW designed the study concept from the beginning, collected data in the field, analyzed the results to draw conclusions, and wrote the report. Meanwhile, JL, MJ, NBB, and S provided direction and directly helped to improve this study.

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