

## Development of ICT-Based Islamic Religious Education Learning Media at MTs Muhammadiyah 15 Medan

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**Abstract:** This study aims to develop an ICT-based Islamic Religious Education (IRE) learning media that is appropriate and engaging for students of MTs Muhammadiyah 15 Medan. The research method employed is Research and Development (R&D) using a simplified Borg & Gall model. The developed product is an interactive PowerPoint-based media integrated with materials, images, videos, and quiz-based evaluations. Instruments used include validation questionnaires from content and media experts, as well as student response questionnaires. Validation results indicated that the media is highly appropriate, with an average feasibility score above 85%. Student responses also showed high enthusiasm for the media, which was considered attractive, easy to use, and helpful in understanding the material. The study concludes that the developed ICT-based IRE learning media is highly suitable for classroom use and can enhance students' interest and comprehension.

**Keywords:** Learning Media; Islamic Religious Education; ICT.

**Abstrak:** Penelitian ini bertujuan untuk mengembangkan media pembelajaran Pendidikan Agama Islam (PAI) berbasis ICT yang layak dan menarik bagi siswa MTs Muhammadiyah 15 Medan. Metode yang digunakan adalah Research and Development (R&D) dengan model pengembangan Borg & Gall yang disederhanakan. Produk media yang dikembangkan berupa media interaktif berbasis PowerPoint yang dilengkapi dengan materi, gambar, video, dan evaluasi berbentuk kuis. Instrumen yang digunakan meliputi angket validasi dari ahli materi dan media, serta angket respon siswa. Hasil validasi menunjukkan bahwa media tergolong sangat layak dengan persentase kelayakan rata-rata di atas 85%. Respon siswa juga menunjukkan antusiasme tinggi terhadap penggunaan media, karena dianggap menarik, mudah digunakan, dan membantu pemahaman materi. Kesimpulan dari penelitian ini

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adalah bahwa media pembelajaran PAI berbasis ICT yang dikembangkan sangat layak digunakan dalam proses pembelajaran dan dapat meningkatkan minat serta pemahaman siswa.

**Kata Kunci:** Media Pembelajaran; Pendidikan Agama Islam; ICT.

## **A. Introduction**

Education in the 21st century has experienced rapid development in line with the advancement of information and communication technology (ICT). The demands of the Industrial Revolution 4.0 have brought about changes in all aspects of life, including education, which is expected to produce students who are not only knowledgeable but also technologically literate (Prensky, 2001). In this context, learning should no longer be teacher-centered, but must shift to being more student-centered and technology-driven.

Islamic Religious Education (IRE), as a subject that shapes students' character and moral integrity, must also adapt to this digital transformation. The traditional methods of teaching, such as lectures and rote memorization, although still relevant in certain contexts, are no longer sufficient to meet the needs of modern learners (Alwi, 2021). Today's students are digital natives who prefer learning that is visual, interactive, and accessible through digital platforms.

Learning media play a critical role in bridging the gap between abstract religious teachings and the real-life experiences of students. ICT-based media, when used appropriately, can make Islamic learning more engaging, meaningful, and memorable. Through multimedia components—such as images, videos, animations, and interactive quizzes—students can better understand and internalize Islamic values (Arsyad, 2019).

Research has shown that the integration of ICT into Islamic education improves students' motivation and academic performance. ICT provides opportunities for teachers to be more creative in designing lessons and for students to participate actively in the learning process (Munir, 2017). In particular, the use of multimedia allows complex religious concepts to be conveyed in ways that are both appealing and pedagogically effective.

Despite its potential, many schools still rely heavily on traditional approaches. At the junior secondary level, particularly in religious-based schools, ICT integration is often minimal. Teachers may lack the skills or resources to develop and use ICT-based learning tools effectively. As a result, lessons may become monotonous and fail to fully engage students (Hassan, 2018).

This condition is also evident at MTs Muhammadiyah 15 Medan, where Islamic Religious Education is mostly delivered using textbooks and verbal explanations. Preliminary observations indicate that students tend to be passive, and the lessons often do not stimulate their curiosity or enthusiasm. This situation underlines the need for innovation in the delivery of religious education in this institution.

The Holy Qur'an itself encourages the pursuit of knowledge through all available means. In Surah Al-'Alaq verse 1, Allah commands: *"Read in the name of your Lord who created."* This verse reflects the obligation for Muslims to seek knowledge using all the tools provided by Allah, including modern technology. The Prophet Muhammad (peace be upon him) also said, *"Convey from me, even if it is only one verse"* (HR. Bukhari), which implies the necessity of utilizing diverse methods for the dissemination of religious teachings.

In this digital age, the integration of ICT in teaching Islamic content is not only a necessity but also a strategic effort to maintain the relevance of religious education. ICT enables the delivery of Islamic messages in ways that resonate with the lifestyle and learning preferences of today's youth. It also opens up opportunities for individualized and differentiated instruction that can cater to various student needs.

Instructional design theory supports the importance of carefully planned and developed learning media. Heinich et al. (2005) emphasized that learning media must align with instructional goals, learner characteristics, and content complexity. Thus, the development of ICT-based media in Islamic education must be systematic and research-based to ensure its effectiveness.

One of the most effective approaches to developing educational media is the Research and Development (R&D) method. Borg and Gall (1989) proposed a model that allows researchers to produce validated and practical educational products through

systematic steps, including needs analysis, design, development, validation, revision, and implementation.

Applying the R&D method in this research is aimed at producing a digital learning product tailored to the context of MTs Muhammadiyah 15 Medan. This product is expected to support the IRE teaching process by providing students with a more engaging, accessible, and pedagogically sound learning experience. The media will be designed based on the curriculum, students' learning styles, and technological capabilities available at the school.

Previous research supports the potential of ICT in enhancing the learning of religious content. For instance, Yusof and Zabidi (2020) demonstrated that the use of multimedia in Islamic education improved students' interest and ability to memorize Qur'anic verses. Their study emphasized the importance of interactivity and visual appeal in increasing students' motivation and attention span.

Moreover, technology in education is not merely about tools but also about pedagogy. It represents a shift in how teachers communicate knowledge and how students construct meaning from the content delivered. Effective learning media foster deeper understanding, critical thinking, and long-term retention of knowledge, especially in subjects like IRE that require reflection and value internalization.

In light of these considerations, this research aims to develop ICT-based Islamic Religious Education learning media for MTs Muhammadiyah 15 Medan. The goal is to create a valid, practical, and effective media product that enhances the learning process and supports the achievement of educational objectives. By doing so, the study contributes to the broader effort of modernizing Islamic education without compromising its core values.

In conclusion, the integration of ICT into Islamic Religious Education is a timely response to the needs of digital-era students. Through structured development and validation processes, educators can produce meaningful and innovative media that not only enrich learning but also inspire students to apply Islamic values in their daily lives.

## **B. Research Methodology**

This study employs a Research and Development (R&D) approach, which is appropriate for creating and validating educational products, particularly instructional media. The R&D method was chosen because it allows the researcher to systematically design, develop, and test the effectiveness of a learning media product tailored to the needs of the students and curriculum at MTs Muhammadiyah 15 Medan. The development model used is a simplified version of the Borg and Gall (1989) model, which includes key stages such as preliminary research, product development, expert validation, field testing, and revision.

The initial stage involved conducting a needs analysis through observation and informal interviews with teachers and students. This step aimed to identify problems in the current teaching methods and gather information about students' preferences and the school's technological infrastructure. The findings from this analysis guided the selection of appropriate content, design features, and delivery modes for the media.

Following the analysis, the design and development stage focused on creating an ICT-based interactive learning media using PowerPoint integrated with images, videos, animations, and quizzes. The content was developed based on the Islamic Religious Education curriculum for Grade VIII and aligned with the students' cognitive levels. Multimedia principles such as simplicity, consistency, and user-friendliness were applied to ensure effective learning outcomes.

Once the prototype was developed, it underwent expert validation by two specialists: one in Islamic education content and another in instructional media and technology. These experts evaluated the product based on several aspects including content accuracy, instructional quality, visual appeal, interactivity, and usability. The feedback and suggestions from these validators were used to improve and revise the media before it was tested with students.

The field testing phase was conducted with a sample of students from class VIII at MTs Muhammadiyah 15 Medan. During this phase, students were exposed to the media in a classroom setting and were asked to complete learning activities using the product. After the session, a student response questionnaire was distributed to gather their

feedback regarding the attractiveness, ease of use, and usefulness of the media. Observations during the lesson were also recorded to assess engagement and participation levels.

Data analysis in this research combined quantitative and qualitative techniques. Quantitative data from the validation sheets and student questionnaires were analyzed using descriptive statistics to determine the level of media feasibility. Qualitative data from expert comments and classroom observations were used to provide in-depth insight into the strengths and weaknesses of the media. The final output of this research is a validated and practical ICT-based instructional media for Islamic Religious Education that can be used to improve teaching and learning at MTs Muhammadiyah 15 Medan.

### **C. Results and Discussion**

The development process of the ICT-based Islamic Religious Education (IRE) learning media followed a simplified Borg & Gall model, beginning with a needs analysis and culminating in the final product testing. Each phase yielded valuable data, which was analyzed to determine the feasibility, practicality, and effectiveness of the developed media.

The needs analysis phase revealed that the majority of students found the existing IRE learning method monotonous and less engaging. Teachers acknowledged the lack of media support in their instructional process and expressed a strong interest in adopting more interactive and visually appealing tools to improve student motivation and participation in class.

Based on these findings, a PowerPoint-based interactive learning media was developed, incorporating text, images, audio narration, short videos, and quiz elements. The selected topic was "Faith in Allah (Iman kepada Allah)" for grade VIII, adapted from the 2013 national curriculum for Islamic Education in Indonesia. The media was designed to be modular, allowing students to navigate content interactively and independently.

The validation process was conducted by two experts: a content expert specializing in Islamic Education and a media expert in educational technology. The content expert assessed the material for accuracy, relevance to the curriculum, and the clarity of language used. The media expert evaluated the design, layout, color usage, interactivity, and user navigation flow.

The results from expert validation showed high feasibility scores. The content expert rated the media 91% (Very Valid), while the media expert rated it 89% (Valid). Both validators highlighted that the media effectively conveyed key Islamic concepts and was pedagogically suitable for junior high school students. Suggestions for improvement included slowing down the video narration and adjusting font size on some slides.

Revisions were made accordingly. The narration was adjusted for better clarity, and visual elements were optimized to ensure readability and accessibility. These adjustments enhanced the overall quality and user experience of the media.

The product was then tested in a real classroom environment at MTs Muhammadiyah 15 Medan with 30 students from class VIII. The test was carried out during a regular IRE session and lasted for 60 minutes. The teacher facilitated the session using the developed media and guided students through the interactive materials.

Student response data were collected using a questionnaire consisting of 15 items covering three aspects: attractiveness, ease of use, and learning benefit. The results showed that 93.3% of students found the media “very interesting” and “fun to use.” Students appreciated the combination of visuals and audio, which helped them better understand the material compared to traditional methods.

In terms of ease of use, 86.7% of students agreed that the navigation was intuitive and simple. The structured layout, clear icons, and interactive buttons allowed students to move through the slides without difficulty. This ease of use was particularly important for ensuring engagement among students with varying levels of technological literacy.



Regarding learning outcomes, 90% of students stated that the media helped them grasp the concept of Tawheed (oneness of God) more clearly. The use of everyday examples, supported by visuals, allowed them to relate the material to real-life experiences. This aligns with Arsyad's (2019) view that well-designed media facilitates meaningful learning by connecting abstract content with learners' contexts.

Classroom observations also indicated increased participation and enthusiasm. Students who were usually passive became more active in answering questions and engaging with the content. The quiz section embedded in the media prompted healthy competition and self-assessment among students, which improved their focus and retention.

The teacher also reported positive impressions. According to her, the use of interactive media reduced the cognitive burden of explaining complex theological concepts. She noted that students asked more questions and demonstrated a greater willingness to discuss religious topics in depth.

In terms of challenges, some students initially struggled with adjusting to the new media format. However, after brief guidance, they adapted quickly. This highlights the importance of providing orientation and scaffolding when introducing digital tools, especially in schools with limited prior ICT integration.

The study also found that the developed media contributed to fostering student-centered learning. Instead of relying solely on the teacher's explanation, students were able to explore the material independently, fostering a sense of autonomy and confidence.

The findings of this study are consistent with previous research. Yusof and Zabidi (2020) found that multimedia-based Islamic education improved not only academic performance but also students' affective engagement with the subject. This further confirms the value of ICT integration in religious instruction.

Moreover, the success of this development process affirms the applicability of the R&D model in producing high-quality educational products. By involving experts, iterative revisions, and real-world testing, the product meets both pedagogical and technological standards.



The positive reception of the media also suggests potential for scaling and replicating the model for other topics in Islamic Education, such as Fiqh, Akhlak, or Seerah. Similar development strategies can be applied to create a comprehensive ICT-based IRE curriculum.

However, the study also recognizes limitations. The media was developed using Microsoft PowerPoint, which, while accessible, has certain technical constraints compared to advanced multimedia platforms. Future research could explore web-based or mobile applications for broader reach and interactivity.

Another limitation is the short duration of the field test. Although student responses were highly positive, a longer implementation period would provide more comprehensive data on knowledge retention and long-term impact on students' religious behavior.

In conclusion, the development of ICT-based learning media for IRE at MTs Muhammadiyah 15 Medan has proven to be valid, practical, and effective. It addresses key issues in traditional teaching, engages students through multimedia, and aligns with curriculum goals. With proper support and training, such innovations can significantly enrich Islamic education in the digital era.

#### **D. Conclusion**

The development of ICT-based Islamic Religious Education learning media at MTs Muhammadiyah 15 Medan has proven to be both feasible and effective. Utilizing the Research and Development (R&D) model, the media was carefully designed, validated by experts, and tested in the classroom setting. The result was a multimedia product that integrated text, visuals, narration, and interactive quizzes, tailored to the curriculum and the cognitive level of Grade VIII students.

The findings revealed that students responded positively to the media in terms of attractiveness, ease of use, and learning benefit. Expert validation confirmed the high quality and relevance of the content and design. Classroom implementation showed increased student engagement, motivation, and understanding of the concept of faith in

Allah. Teachers also acknowledged the media's contribution in simplifying the delivery of abstract religious concepts.

In conclusion, this study demonstrates that ICT-based media can significantly enhance the teaching and learning process in Islamic Religious Education. Such innovations not only make religious subjects more engaging but also help students internalize Islamic values more effectively. Therefore, it is recommended that similar approaches be applied to other topics and educational levels to improve the overall quality of Islamic education in the digital age.

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