

# Integration of Digital Media in Religious Learning and Elementary School Students' Religious Behavior: A Mixed-Methods Study

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This mixed-methods study examines digital media integration in religious learning and its association with elementary school students' religious behavior in Berastagi District, Karo Regency, Indonesia. Quantitative data were collected through questionnaires involving 672 sixth-grade students, while qualitative data were obtained through interviews, observations, and documentation involving 26 principals and 26 religious teachers. Quantitative analysis used descriptive statistics, simple linear regression, and hypothesis testing; qualitative findings were analyzed thematically. The regression model was  $Y = 41.191 + 1.277X$ , with  $t = 13.507$ ,  $p < .001$ , and  $R^2 = .214$ , indicating that digital media integration accounted for 21.4% of the variance in religious behavior scores. Religious behavior was moderate overall, while the character education indicators were rated high. Qualitative findings identified challenges involving infrastructure, teacher digital competencies, access to devices, and pedagogical guidance. Reflective discussion, interactive content, gamification, teacher development, and parent-school collaboration were identified as potential educational strategies. These findings support a positive association between digital media integration and religious behavior, while emphasizing that the observational design does not establish causality.

**Keywords:** digital media; religious education; elementary school; religious behavior; character education; mixed methods

## 1. INTRODUCTION

In today's digital era, technological developments influence almost all aspects of life, including education (Aloraini & Cardoso, 2022). One significant change is the integration

of digital media into the learning process (Degner et al., 2022). Digital media provides new opportunities for educators to deliver material in a more engaging and interactive manner (Alismailel, 2022). In the context of religious learning in elementary schools, digital

media has the potential to support the improvement of students' religious behavior (Gule, 2022). However, although digital media has been used in various subjects, its application in religious education at the elementary school level is still limited and suboptimal (Gluszek-Szafraniec, 2022). Therefore, the integration of digital media in religious learning is a highly relevant and important topic for research.

Religious education in elementary schools aims to shape students' religious character in accordance with religious values (Zainuddin, 2023). However, conventional religious learning tends to be less able to meet the demands of a generation growing up in this digital era (Smith, 2023). Today's students are more familiar with the use of technology and are often more attracted to learning approaches that utilize digital media (Andriana et al., 2021). In this regard, digital media can be an effective tool to increase students' understanding of religious values and strengthen their religious character (Marei, 2024). Previous research has shown that the use of digital media in religious education can increase learning interest and enrich students' learning experiences (Irwandi et al., 2022).

Furthermore, digital media integration also presents new challenges in terms of curriculum and learning adaptation (Heriyawati et al., 2024). Although digital media has great potential, its implementation still faces several obstacles, such as a lack of teacher training and limited infrastructure (Hota, 2023). Therefore, it is important to develop learning models that effectively integrate digital media to optimally achieve the goals of religious education, particularly in improving students' religious behavior. This study aims to analyze how digital media can be integrated into religious learning in elementary schools to improve students' religious behavior, as well as explore the challenges and opportunities that exist).

The importance of this research lies in the need to adapt religious instruction in elementary schools to the rapid development of digital technology. Integrating digital media into religious instruction can open up new opportunities to enrich students' learning experiences, enhance their understanding of religious values, and foster better religious character (Wardana, 2022). In the digital era, students are increasingly familiar with digital devices and the internet, making it crucial for religious education to utilize digital media that can capture their attention and deliver material in a more interactive and relevant manner (Turnbull, 2023). By utilizing digital media, religious education can not only increase student interest but also adapt to the learning styles of the younger generation, who are more inclined to use technology.

Furthermore, this research is also important for identifying the challenges educators face in integrating technology into religious learning, as well as for finding solutions to overcome these obstacles. Effective religious learning in elementary schools is crucial for shaping students' religious behavior from an early age, and the use of digital media can be a key to achieving this. Therefore, this research is expected to contribute to the development of more effective strategies in integrating digital media into religious learning, as well as providing guidance for teachers and educational policy makers.

Several research results related to the research conducted by the research team on the Integration of Digital Media in Religious Learning to Improve the Religious Behavior of Elementary School Students in the Digital Era: An Innovative Perspective on Character Education can be seen in the state of the art description in table 1 below.

**Table 1. Previous Research**

| Research Title                                                                                                          | Findings                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integrating Digital Literacy in Christian Religious Education: A Study of Students in Ambon State Polytechnic [15]      | Digital literacy in Christian religious education increases engagement, academic achievement, and the formation of digital ethics.                     |
| Integration of Digital Media in Religious Activities: Potential and Challenges for Catholic Education [16]              | Digital media is used in Catholic religious activities, but has not been systematically integrated into formal education.                              |
| Application Of Digital Media In Christian Religion Education Learning In The New Normal Era Post Covid-19 Pandemic [17] | Christian religious learning using digital media increases learning interest, teacher creativity, and student interaction after the COVID-19 pandemic. |

Based on the descriptions above, the formulation of the problem in this research is:

1. How does digital media integration influence the improvement of religious behavior of elementary school students?
2. What are the challenges faced in implementing digital media in religious learning?
3. How can innovative digital media-based character education strategies be implemented in religious learning in elementary schools?

## 2. METHOD

The approach used in this study is a combination of quantitative and qualitative approaches (mixed method) (Pariama, 2024). The qualitative approach consists of observation, interviews, and documentation to provide a comprehensive analysis of the challenges and innovative strategies for using digital media in character-based religious learning at Elementary Schools in Berastagi District, Karo Regency. Meanwhile, the quantitative approach includes a survey in the form of a questionnaire to measure the effectiveness of digital media-based learning in shaping students' religious behavior and religious character in the digital era.

### 2.1. Participants

This study targets groups of students and teachers involved in character-based religious learning at Elementary Schools in Berastagi District, Karo Regency. The study population included all elementary school students in Berastagi District, totaling 6,966 students from 26 schools. The sample consisted of 26 principals, 26 religious teachers, and 672 sixth-grade students from elementary schools in Berastagi District. The sampling technique used was purposive *sampling*, considering that sixth-grade students had been participating in religious studies for six years and had a sufficient level of understanding and independence in utilizing digital media.

### 2.2. Data collection

The data in this study were collected using several methods to obtain comprehensive and in-depth information, namely:

#### 2.2.1. Surveys

are used to collect quantitative data from students. The survey instrument is a questionnaire designed to measure research variables, such as digital media integration, student religious behavior, and religious character education. This survey uses to assess the level of perception or experience of participants.

### 2.2.2. Interviews

Interviews were conducted in a semi-structured manner with teachers or educators to obtain qualitative information regarding experiences, attitudes, and challenges in integrating digital media into religious learning.

### 2.2.3. Observations

were conducted to directly monitor the classroom learning process, particularly the use of digital media, student interactions, and the implementation of character-based learning strategies. This method helped validate data from surveys and interviews.

### 2.2.4. Documentation

involves collecting written or archival data, such as student grades, learning activity records, and digital teaching materials. This data provides objective evidence and supports both quantitative and qualitative analysis.

## 2.3. Data analysis

### 2.3.1. Descriptive Statistics

Descriptive statistics were used to summarize the data, including the mean, standard deviation, and frequency for variables such as digital media integration, student religious behavior, and religious character education. Before the data was used, the instrument was tested using validity and reliability tests.

### 3.4. Descriptive Statistics

Digital Media Integration

**Table 3.1 Descriptive Statistics of Digital Media Usage**

| No. | Indicator                                      | Mean | SD   | Category |
|-----|------------------------------------------------|------|------|----------|
| 1   | Learn religion by watching videos              | 2.13 | 0.44 | Low      |
| 2   | Viewing pictures/animations during lessons     | 2.23 | 0.42 | Low      |
| 3   | Learn prayers/spiritual songs via the internet | 2.25 | 0.40 | Low      |
| 4   | Playing educational games about                | 2.21 | 0.38 | Low      |

### 2.3.2. Inferential Statistics

Hypothesis testing is carried out using inferential statistical methods. in the form of simple linear regression, t-test, and coefficient of determination to see the significance and contribution of digital media integration to students' religious behavior and religious character education.

### 2.3.3. Thematic Analysis

Thematic analysis was used to identify key themes and patterns from interview transcripts, observations, and documentation. This process interpreted the results to provide insight into teacher and student perspectives regarding the integration of digital literacy into learning.

## 3. RESULTS AND DISCUSSION

### 3.3. Instrument Validity and Reliability Test

The research instrument consisted of 23 items (6 digital media integration items and 17 religious behavior items). Validity testing using item-total correlation ( $r \geq 0.30$ ) showed all items were valid with correlations ranging from 0.338–0.770. Reliability testing produced a Cronbach's Alpha of 0.876, indicating high internal consistency ( $\alpha > 0.70$ ). Thus, the instrument was declared valid and reliable.

|   |                                                         |      |      |          |
|---|---------------------------------------------------------|------|------|----------|
|   | religion                                                |      |      |          |
| 5 | Using a digital Bible app                               | 2.33 | 0.39 | Low      |
| 6 | Learning religion is more enthusiastic if you use media | 3    | 0.35 | Moderate |
|   | Average                                                 | 2.36 | 0.39 | Low      |

The average digital media integration score was 2.36 out of 5 with a standard deviation of 0.29, indicating that the level of digital media use was in the low category . This means that the use of digital media by students in religious learning is still limited . The indicator with the highest score is students studying religion more enthusiastic when using videos with an average of 3.00 out of 5 with a standard deviation of 0.44 . This finding indicates that students have higher learning motivation when digital media is used in an interesting and interactive manner . Meanwhile, the indicator with the lowest score is

student learning. religion by watching videos shown by teachers with an average of 2.13 out of 5 and a standard deviation of 0.35 . This shows that even though teachers use videos in learning, students are less interested if the media is presented passively without direct interaction or involvement. Overall, these results underscore the need for innovative strategies in utilizing digital media, not just showing videos, but presenting more participatory and engaging learning experiences.

#### Students' Religious Behavior

Table 3.2 Descriptive Statistics of Students' Religious Behavior

| No | Indicator                                                               | Mean | SD   | Category |
|----|-------------------------------------------------------------------------|------|------|----------|
| 1  | Pray diligently every day                                               | 2.68 | 0.41 | Moderate |
| 2  | Reading the Bible/Quran at home                                         | 2.89 | 0.49 | Moderate |
| 3  | Respect teachers and parents according to religious teachings           | 3.01 | 0.35 | Moderate |
| 4  | Helping friends/other people because of religious teachings             | 3.16 | 0.38 | Moderate |
| 5  | Enjoy learning about God and religious teachings                        | 3.29 | 0.41 | Moderate |
| 6  | Remembering and practicing religious teachings after watching the video | 3.34 | 0.40 | Moderate |
| 7  | More interested in learning religion with the help of technology        | 3.42 | 0.42 | High     |
| 8  | Emulating the good attitudes of religious figures from video broadcasts | 3.47 | 0.38 | High     |
| 9  | Discuss religion with friends after watching the video                  | 3.49 | 0.39 | High     |
|    | Average                                                                 | 3.19 | 0.40 | Moderate |

The average score of students' religious behavior was 3.19 out of 5 with a standard deviation of

0.40 . The category of students' religious behavior was included in the moderate category . This indicates that in general students have quite good religious behavior, although it is not optimal and still needs to be improved. When viewed from each indicator, the highest score was in discussing religion with friends after watching videos with an average value of 3.49 and a standard deviation of 0.39 . This indicates that students tend to be enthusiastic about discussing religious material after receiving stimulation through digital media, especially learning videos. This discussion activity indicates social engagement and a deeper understanding of the material being taught. Conversely, the

indicator with the lowest score was diligent daily prayer. with an average of 2.68 and a standard deviation of 0.41 . This score is below the overall average and indicates that some students are still inconsistent in their daily prayer habits. This could be due to a lack of familiarization or supervision within the family and school environment. Overall, although students' religious behavior is in the moderate category, this finding indicates the need to strengthen the habit of routine worship, such as daily prayer, as well as maintaining digital media-based religious discussions that have proven to attract students' interest.

**Table 3.3 Descriptive Statistics of Character Education**

| No | Indicator                                                        | Mean | SD   | Category |
|----|------------------------------------------------------------------|------|------|----------|
| 1  | Be honest according to religious teachings                       | 3.62 | 0.41 | High     |
| 2  | Responsible for completing school assignments                    | 3.63 | 0.34 | High     |
| 3  | Discipline in worship every day                                  | 3.68 | 0.40 | High     |
| 4  | Like helping friends because it is a good deed                   | 3.69 | 0.40 | High     |
| 5  | Respecting parents and teachers after learning exemplary stories | 3.74 | 0.35 | High     |
| 6  | Don't tease your friends because it's a bad thing to do.         | 3.78 | 0.39 | High     |
| 7  | Forgiving friends who do wrong                                   | 3.84 | 0.42 | High     |
| 8  | Want to be a good child after studying                           | 3.86 | 0.38 | High     |
|    | Average                                                          | 3.73 | 0.39 | High     |

Based on the data analysis, the average score for students' religious character education was 3.73 out of 5, with a standard deviation of 0.39, which is considered high . This indicates that students generally possess good and consistent

religious character, although this still needs to be improved to achieve optimal results. Therefore, digital media integration has significant potential to complement schools' efforts to shape students' religious character.

### **3.5. Hypothesis Testing**

Table 3.4 Regression coefficients

**Coefficients<sup>a</sup>**

| Model | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|-----------------------------|------------|---------------------------|--------|------|
|       | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant)                  | 41.191     | 1.361                     | 30.276 | .000 |
|       | MediaDigital                | 1.277      | .095                      | .463   | .000 |

a. Dependent Variable: PerilakuReligius

Table 4.1 results of the regression analysis show that digital media integration has a positive and significant effect on students' religious behavior. The constant value ( intercept ) of 41.191 indicates that when digital media use is zero , students' religious behavior is predicted to be at an average value of 41.191 . The regression coefficient for Digital Media is 1.277 with a t

value = 13.507 and  $p < 0.001$  (Sig. = 0.000) . This shows that every one unit increase in digital media use will increase students' religious behavior scores by 1.277 . The standard Beta value of 0.463 indicates that the influence of digital media on religious behavior is in the moderate category.

Table 3.5 Coefficient of Determination

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .463 <sup>a</sup> | .214     | .213              | 10.50237                   |

a. Predictors: (Constant), MediaDigital

Based on table 3.5, the R value is 0.463 which shows the level of relationship between the Digital Media variable and Religious Behavior is in the moderate category . The R Square value is 0.214 which means that 21.4% of the variation in Religious Behavior can be explained by Digital Media , while the remaining 78.6% is explained by other factors. Thus, this study supports the hypothesis that digital media integration in learning plays a significant role in improving students' religious behavior . H<sub>1</sub>: Digital media integration has a positive effect on students' religious behavior (Innovative Perspective of Character Education).

### 3.6. Challenges in Implementing Digital Media in Religious Learning

One of the main challenges found in this study is the limited infrastructure and access to digital media in elementary schools. Based on the results of interviews with teachers and

principals, supporting devices such as projectors, computers, and internet connections are not yet available in every class, so the use of digital media is still limited and alternating. This situation has an impact on limited digital-based learning time and reduces learning continuity. Observational data shows that students can only use interactive Bible applications when devices are available, while others are just passive spectators. These limitations hamper the principle of equitable access, a key pillar of digital education. This aligns with the findings of research by Suharsiwi et al., which asserts that unequal access to technology can widen the gap in learning outcomes. This is supported by other studies highlighting that limited facilities, infrastructure, and internet access directly hinder the optimization of digital learning in elementary schools (Suharsiwi et al., 2023). Therefore, the provision of equitable digital infrastructure is a key prerequisite for optimal and inclusive

implementation of digital media integration in religious learning. Without adequate support, the potential of digital media to enhance student understanding and engagement will be difficult to achieve.

The next challenge is teacher competence in using digital media as an interactive and transformative learning tool. Interviews revealed that teachers have a strong willingness to use technology, but their skills are still limited to basic usage, such as playing videos or displaying slides. Teachers acknowledged the need for more in-depth training on how to integrate digital media into lesson plans and manage technology-based discussions, reflections, and evaluations. This is crucial because digital media serves not only as a visual aid but also as a means to build participatory learning experiences. According to Technological Pedagogical Content Knowledge (TPACK) theory, teachers need to master the integration of technological, pedagogical, and content knowledge for digital learning to be effective. Research shows that although teachers tend to have positive attitudes toward technology use, their skills are often limited and require systematic training to improve TPACK-based digital competencies (Huda et al., 2024). Without adequate digital pedagogical competencies, the media used risks becoming merely entertainment without having a significant impact on the formation of students' religious character. Therefore, increasing teacher capacity is an urgent challenge to ensure that digital media integration can truly support the achievement of religious education goals.

In addition to infrastructure limitations, unequal access among students is also a significant issue. Interviews with students indicate that most do not have personal devices or must share them with other family members, making it difficult for them to always participate in digital learning at home. This leads to uneven student engagement. Questionnaire results confirm this finding, with an average digital media integration score of only 2.28 out of 5 (low category), indicating that digital media utilization is still

suboptimal. This unequal access impacts motivation and learning outcomes, as students with full access tend to be more engaged, while those without access feel left behind. This situation creates a digital divide that can impact the equitable distribution of the quality of religious learning, as also confirmed in research showing that limited device access exacerbates gaps in student motivation and engagement in learning (A., 2024). Therefore, schools need to find creative solutions such as providing computer laboratory facilities that can be used in rotation or collaborating with external parties to support the provision of devices for underprivileged students.

Another challenge teachers expressed was the lack of pedagogical guidance specifically integrating digital media with character education goals. Teachers often choose videos or apps independently without clear curriculum guidance. This situation leaves the quality of digital learning dependent on individual teacher initiative, resulting in heterogeneity across classes. In fact, digital media should be designed not only to convey material but also to internalize moral and spiritual values. According to Thomas Lickona's character education theory, the learning process must address three main aspects: moral knowledge, moral feelings, and moral actions. Without a structured pedagogical design, digital media may only enrich the cognitive aspect but fail to consistently shape religious behavior. This aligns with research showing that technology integration in character education requires clear pedagogical guidance so that digital media can function as a means of value transformation, not simply as a means of conveying information (Putri, 2021). Therefore, official guidelines are needed that align digital media with the objectives of the religious education curriculum, so that teachers can use it as a tool for character transformation, not just entertainment or information delivery.

### ***3.7. Innovative Character Education Strategies Based on Digital Media***

The first recommended innovative strategy is to design learning based on active participation and value reflection. Interview results showed that students were more motivated when teachers engaged them in discussions after watching instructional videos. This is in line with questionnaire findings, which showed the highest score for the indicator "discussing religion after watching a video" with an average of 3.5. This strategy can strengthen conceptual understanding while encouraging students to internalize religious values through critical thinking and sharing experiences. Reflective discussions after video screenings can also help teachers guide students in the practical application of moral values in everyday life. Recent research confirms that reflection-based learning combined with digital media is effective in strengthening students' character formation and moral awareness (Tambunan & Iskandar, 2024). Within the framework of constructivist theory, students construct knowledge through social interaction and reflection, making discussion-based learning one of the most effective methods for character education. Therefore, the integration of digital media must be accompanied by question-and-answer activities, case studies, or role-play so that the moral messages from the media watched are not only cognitively understood but also internalized and applied.

The next strategy is to utilize gamification to encourage the habit of daily worship. The questionnaire results showed the lowest score on the indicator "diligently praying every day" (2.7 out of 5), indicating the need for a new approach to strengthen students' consistency in worship. Digital media can be used to create prayer reminder apps or daily worship challenges with a points system or virtual rewards that motivate students. Gamification has been proven effective in increasing learning engagement because it utilizes elements of competition and rewards that are fun for children (Sihombing & Saragih, 2025).

Furthermore, research shows that gamification can also strengthen the formation of positive habits through a system of continuous feedback and monitoring. This strategy can be strengthened by parental involvement, who can help monitor their children's religious activities at home through app reports. Thus, digital media serves not only as a means of delivering material but also as a tool for monitoring and strengthening religious habits, allowing religious values to be continuously internalized outside of school hours (Sipahutar & Saragih, 2025).

The third strategy is the use of digital content that is creative, interactive, and relevant to the world of students. Based on interviews, students stated that they preferred learning using animations, illustrated stories, or interactive quizzes rather than simply listening to teacher lectures. This shows the need for digital media design that combines storytelling, interactive simulations, and educational games. Content like this can stimulate cognitive, affective, and psychomotor aspects simultaneously, thus aligning with the concept of holistic learning. Creative use of digital media also encourages students to be more active in seeking information and participating in class activities. Research shows that narrative-based and interactive digital content can significantly increase student motivation, understanding, and participation. According to Hjarvard's mediatization of religion theory, media not only conveys messages but also shapes how individuals understand and experience religious values. Therefore, the selected digital content must have narrative power that can inspire, evoke positive emotions, and guide students in living according to religious values (Hjarvard, 2008).

The final innovative strategy is strengthening teacher capacity and collaborating with parents. Teachers play a key role as facilitators, ensuring that digital media is used in accordance with religious values. Therefore, regular training is needed on how to select appropriate media, manage digital-based discussions, and evaluate the impact of learning on student character

development. Research shows that teacher training in technology integration is crucial for improving the effectiveness of digital learning. Furthermore, parental involvement is crucial to ensure digital learning doesn't stop at school. Another study confirmed that parental support in the use of digital media significantly contributes to children's learning success (Boiliu et al., 2024). School principals recommend outreach programs for parents to encourage the use of religious media at home. This collaboration allows for a consistent learning environment, where schools, teachers, and families work together to shape students' religious character. With this synergy, digital media not only serves as a learning tool but also serves as a bridge between formal learning at school and the instilling of religious values in students' daily lives.

#### 4. CONCLUSION

The integration of digital media in religious learning has been proven to have a positive impact on improving students' religious behavior. The results of the study show that the level of digital media integration is still relatively low, while religious behavior is in the medium category and religious character education is in the high category. Regression analysis confirmed a positive relationship between digital media use and religious behavior, with each increase in digital media use being accompanied by an increase in students' religious behavior. A significance test showed a significant effect, although its contribution only reached 21.4 %, indicating that most other factors also influence religious behavior. This finding confirms that digital media can be a supporting tool for religious character formation, but it is not the sole determinant.

The main challenges identified include limited infrastructure, teacher competency, and gaps in access to digital media. To overcome these obstacles, this study recommends innovative strategies such as reflection-based learning, gamification of worship activities, development of creative digital content, as well as teacher training and collaboration with parents. With

careful planning and support from various parties, digital media integration has the potential to strengthen students' religious character in the digital era, in line with technological developments and spiritual values.

This research contributes to a comprehensive mapping of digital media integration levels, religious behavior categories, and student character education, as well as the development of a contextual, innovative strategy model for elementary schools in the digital era. The theoretical implications of this research enrich the study of TPACK-based technology integration and Lickona's character education theory in the context of religious education. The practical implication is that this research provides guidance for teachers, schools, and parents in utilizing digital media effectively to support the formation of students' religious behavior.

#### Ethical considerations (author verification required)

The authors must confirm institutional permissions, parental/guardian consent and child assent (where applicable), data privacy safeguards, and whether approval or an exemption was issued by an ethics committee. No ethics approval number is supplied in the source manuscript.

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