

Integration of Islamic Values in Mathematics Learning: A Case Study in Madrasah Ibtidaiyah

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Abstract: This study aims to comprehensively examine the integration of Islamic values in mathematics learning in Madrasah Ibtidaiyah through a library research approach with an integrative review type of study. The literature analyzed includes articles published in 2015-2024 from various reputable databases such as Google Scholar, DOAJ, Scopus, and SciSpace. The literature selection process followed the PRISMA stage, while data analysis was carried out thematically to identify implementation patterns, impacts, and challenges of Islamic value integration. The results of the study showed that the application of Islamic values through a Qur'an and hadith-based approach, contextual learning, and teacher exemplary can improve learning motivation, understanding of mathematical concepts, and students' religious attitudes. However, challenges such as limited teacher competence and student resistance are still obstacles in its implementation. This study recommends collaborative curriculum development, Islamic pedagogy training and contextualized teaching media enrichment. The findings provide a theoretical and practical foundation for the development of a holistic Islamic values-based mathematics learning model at the primary level.

Keywords: integration of Islamic values, mathematics learning, Madrasah Ibtidaiyah, character education, literature study.

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A. INTRODUCTION

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The integration of Islamic values in mathematics learning is an approach that combines spiritual and cognitive aspects in education. According to Nurjanah (2022), this integration includes the application of Islamic principles in the process of teaching and learning mathematics, such as honesty, responsibility, and gratitude. This is in line with the view of Imamuddin et al. (2020) who stated that the integration of science and religion in education can strengthen students' character and improve their understanding of the subject matter.

In the context of Madrasah Ibtidaiyah, the integration of Islamic values in mathematics learning is important because of the age of students who are at the stage of character development. Supiarmo et al. (2024) emphasized that mathematics learning integrated with Islamic values can help internalize religious characters in students. In addition, research by Hariyani (2013) showed that mathematics learning strategies integrated with Islamic values can improve student motivation and learning outcomes.

In Madrasah Ibtidaiyah, integrating Islamic values in mathematics learning is often considered difficult due to the difference between logical mathematics content and normative religious values. However, according to Hariyani (2013), these challenges can be overcome

with creative approaches, such as the use of analogies, visual illustrations, and application examples that are relevant to everyday life. Research by Apriliana et al. (2025) at MA Miftahul Ishlah showed that the integration of Islamic values in mathematics learning can be done through the practice of gratitude, ethics, and social values. For example, joint prayer activities before lessons can foster students' gratitude for the knowledge gained. In addition, the application of values such as honesty and responsibility in completing math assignments can strengthen student character.

Furthermore, Supiarmo et al. (2024) suggested the use of strategies such as infusion, analogy, and narration in integrating Islamic values in mathematics learning. These strategies can help students understand math concepts while instilling religious values in them. Thus, the integration of Islamic values in mathematics learning in Madrasah Ibtidaiyah not only improves students' academic understanding, but also shapes their character in accordance with Islamic teachings. This approach is important to implement in order to create a smart and noble generation.

B. METHOD

This research uses a library research approach with the type of integrative review study, which is a literature review method that aims to identify, analyze, and synthesize findings from various relevant literature sources in order to build a theoretical framework and provide a comprehensive understanding of the topic of integration of Islamic values in mathematics learning in Madrasah Ibtidaiyah. This approach allows researchers to systematically and critically review various types of sources (quantitative, qualitative, or theoretical) over a period of time (Whittemore & Knafl, 2005). The main focus of this research is to develop a theoretical and practical synthesis based on literature published between 2015 and 2024.

The data sources in this study came from several reputable academic databases, namely Google Scholar, DOAJ (Directory of Open Access Journals), Scopus, and SciSpace. The inclusion criteria applied include: (1) articles relevant to the topic of integration of Islamic values and/or mathematics learning at the primary level; (2) articles published in the period 2015-2024; (3) articles that have passed the peer-review process; and (4) available in Indonesian or English. Meanwhile, the exclusion criteria included: (1) articles that were not substantively relevant; (2) articles with low methodological quality; and (3) duplicate articles from various repositories or republications. The literature search process was conducted using keywords such as: "Islamic values integration in mathematics education", 'Madrasah Ibtidaiyah', 'character education in Islamic schools', and their derivatives.

The literature selection procedure was conducted through four main stages: identification, screening, eligibility and inclusion (adapting the PRISMA approach). The first stage was the collection of articles from the database using predefined keywords. The second stage was screening by title and abstract to remove irrelevant literature. The third stage was to evaluate the eligibility of the article content based on the inclusion and exclusion criteria. Finally, articles that passed the selection stage were included in the final analysis. This process involved two independent researchers to increase the objectivity of the selection.

The data analysis method in this study used a thematic content analysis approach to identify recurring and relevant thematic patterns from each article. The analysis was conducted by categorizing the literature into main themes such as forms of Islamic value integration, teaching methods, learning outcomes, and institutional context. Validity and reliability in this study were maintained through triangulation of sources as well as discussion between researchers in equalizing perceptions of the analyzed literature (Noble & Smith, 2015). Thus, the results of this review are expected to produce a synthesis that can be used as a reference for the development of an integrative learning model based on Islamic values in Madrasah Ibtidaiyah.

C. RESULTS AND DISCUSSION

1. Forms of Implementation of Islamic Values in Mathematics Learning

The implementation of Islamic values in mathematics learning is an important effort in creating learning that not only focuses on academic aspects, but also on developing students' character and spirituality. Teachers or educational institutions can integrate Islamic values through various approaches, which include the use of Qur'anic verses, contextual learning methods, and the formation of religious attitudes. One way to integrate Islamic values in mathematics learning is to refer to the teachings of the Qur'an in conveying mathematical concepts. Teaching can involve relevant hadith or verses to synergize mathematics learning with Islamic moral and ethical values. This is in line with research showing that the use of learning modules based on the Qur'an and hadith can shape students' religious attitudes (Choirudin et al., 2021). In addition, this integration helps students to see the relevance between mathematics and religious teachings, thus fostering a sense of enthusiasm in learning (Nabila & Nu'man, 2025).

Contextual approach in learning is also an important aspect in the integration of Islamic values. Contextual learning allows students to relate mathematical material to the surrounding environment and real situations they face in their daily lives as Muslims. Research shows that inclusive learning strategies not only improve mathematics understanding, but also help students' character building, especially in the context of Islamic education (Suciati et al., 2022; Imamuddin & Isnaniah, 2023). Through contextualized learning, students are invited to understand how Islamic values can be applied in everyday situations that include numbers, calculations, and logic in mathematics.

In addition, religious attitudes in learning can be developed through the reinforcement of Islamic values during the teaching and learning process. Teachers who are able to model religious attitudes and relate learning to the ethical consequences of mathematical actions can create a more positive learning atmosphere and support students' spiritual development. Research shows that improvement in students' religious attitudes is positively related to their learning outcomes, indicating that the integration of Islamic values supports academic achievement in mathematics (Anwar et al., 2023; Ulia et al., 2020).

The support of an Islamic values-focused curriculum in education is critical to the success of this implementation. A curriculum designed not only to meet academic standards, but also to shape students into disciplined and responsible individuals in accordance with Islamic principles, is an effective step in learning (Fitriyawany et al., 2022). Thus, a well-rounded

education - covering spiritual, academic and moral aspects - can be achieved through the holistic integration of Islamic values in mathematics learning.

2. The Impact of Islamic Value Integration on Student Motivation and Character

The integration of Islamic values in mathematics learning has shown significant impact on student and teacher responses. Research shows that this approach not only increases students' learning motivation, but also supports the understanding of the mathematical concepts being taught as well as strengthening spiritual attitudes among students. One of the positive aspects of the integration of Islamic values is the increase in students' learning motivation. In a study conducted by Zainal and Khatimah, it was found that after the implementation of a learning video that included Islamic values, about 75% of students gave a positive response to their learning motivation (Zainal & Khatimah, 2024). Students' responses to the application of Islamic values in the context of PISA-like math problems also showed a significant effect, where students were more enthusiastic and actively participated in learning mathematics associated with their religious context (Lutfianto & Sari, 2017). This suggests that when the subject matter contains elements that correspond to religious values, students feel more connected and motivated to learn.

In addition, teachers also play an important role in implementing these values. Research by Jainiyah et al. illustrates how the active role of teachers in creating a supportive atmosphere can increase student motivation and engagement (Jainiyah et al., 2023). Teachers who are able to link mathematical concepts with Islamic teachings not only shape students' mathematical understanding, but also build overall character rooted in spiritual values (Fitrah & Kusnadi, 2022). This was emphasized in Kartika et al.'s research, which assessed the positive impact of applying Islamic values in trigonometry learning, which increased students' faith and understanding of religious teachings (Kartika et al., 2024).

A positive response to the integration of Islamic values is also seen in students' spiritual attitudes and understanding. In a study by Nurjanah, the importance of involving Islamic teachings in various aspects of mathematics learning was felt by students, where they were able to better understand and appreciate the material with relevant religious contexts (Nurjanah, 2022). Such integration helps students not only in numerical mastery, but also in building a deeper understanding of how mathematics relates to their daily lives as Muslims. Thus, the application of Islamic values in mathematics learning is proven to have a positive impact on both learning motivation, concept understanding, and the development of students' spiritual attitudes. Effective implementation of these values depends not only on the material presented, but also on the way teachers integrate the teachings in an inspiring and engaging teaching and learning process.

3. Challenges and Solutions in Integrating Islamic Values in Mathematics Learning

Integrating Islamic values into mathematics learning in schools faces various challenges. These challenges range from limited teacher understanding, student resistance to new methods, to a lack of resources or supportive teaching materials. It is important to understand these challenges so that effective strategies can be implemented to achieve meaningful

learning. One of the main challenges is teachers' lack of understanding and skills in integrating Islamic values into math content. Many teachers feel unsure of how to deliver complex mathematics material while still incorporating relevant religious teachings. This results in less effective implementation Fitrah & Kusnadi (2022). Research by Kurniati shows that value education must be balanced with the right pedagogy so that the implementation of Islamic values becomes more effective in learning (Kurniati, 2015).

In addition, there is resistance from students who feel that math lessons integrated with Islamic values are unfamiliar or different from the way they learned before. This can lead to disengagement and a negative view of mathematics (Argaswari, 2018). To overcome this, a strategy that can be applied is through integrating the history of mathematics and Islamic values in a relevant context. This approach can increase students' interest in mathematics by showing the real impact of the connection between mathematical concepts and spiritual values promoted in Islamic teachings (Imelda, 2018). Another effective strategy is to create a learning environment that allows students to see the connection between math and their daily life as a Muslim. Using the infusion method, where Islamic values are naturally inserted in every lesson, can also help. For example, linking whole number operations to the context of the Qur'anic teachings can provide deeper meaning to students, so that they not only learn techniques, but also understand the underlying moral values (Ihtiara et al., 2023).

Collaboration between teachers and related parties, including curriculum managers and the community, is also very important. In this context, the revision of the Islamic values-based curriculum involving such collaboration is expected to provide solutions to the existing challenges (Raffin et al., 2024). It creates space for innovation in learning, so that the values can be better internalized by students. The implementation of Islamic values in mathematics learning can also be supported by the use of modules or teaching materials that are more accessible and relevant to the context of students. Learning that is contextualized and in accordance with the needs and interests of students will be more easily accepted, thus reducing resistance that may exist (Inayaturobbaniyah & Faizah, 2023). By applying these strategies, it is expected that the integration of Islamic values in mathematics learning can take place more smoothly and effectively. Although challenges exist, with the right approach and adequate support, this integration can provide significant results not only in academic aspects, but also in the character and spiritual formation of students.

D. CONCLUSIONS AND SUGGESTIONS

The integration of Islamic values in mathematics learning in Madrasah Ibtidaiyah makes an important contribution in shaping holistic learning, which not only improves students' academic understanding of mathematical concepts, but also strengthens their character and spirituality. The implementation of Islamic values through Qur'an and hadith-based approaches, contextual learning, and teacher exemplary behavior, has been proven to increase learning motivation, religious attitudes, and student engagement in the learning process. Although there are challenges such as limited teacher understanding and student resistance, solutions through strengthening Islamic pedagogy, collaborative curriculum support, and providing contextualized media and teaching materials have shown effectiveness in

overcoming these obstacles. Therefore, this integration is a strategic approach to realizing a balanced education between cognitive and spiritual aspects in the madrasah environment.

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