



Challenges to Implementing Integrated Mathematics Learning with Islamic Values in Islamic Schools in East Java

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Abstract

This study seeks to examine the challenges encountered by teachers in implementing mathematics instruction integrated with Islamic values in Islamic schools. A descriptive qualitative approach was employed, involving three mathematics teachers from three Islamic schools in East Java, selected through purposive sampling. Data were obtained through semi-structured interviews and document analysis of Lesson Plans (RPP), and subsequently analyzed using the Miles and Huberman model. The validity of the data was ensured through source triangulation. The findings revealed several challenges, including limited knowledge regarding the integration of Islamic values, insufficient professional training, the prevailing perception of mathematics as a value-neutral discipline, and low student interest in mathematics. These challenges contributed to the less-than-optimal attainment of students' religiosity, motivation, and academic performance. Consequently, it is recommended that schools provide systematic training and integrative modules to enhance teachers' competence in applying Islamic value-based mathematics instruction

Keywords:

Islamic Values; Integration; Mathematics Learning

A. INTRODUCTION

Character education is a conscious, planned, and purposeful effort conducted through the learning environment to cultivate the full potential of individuals who are virtuous, moral, ethical, and capable of generating a positive constitutive impact on nature and society (Arifi in Muslimin, 2022; Kamaruddin et al., 2023). Character education has become an urgent response to the moral and ethical degradation experienced by Indonesia's young generation (Yulianti, 2021). Consequently, it is necessary to integrate moral and religious values—particularly Islamic values as the foundational basis of ethical conduct—into all aspects of school-based learning (Agustian, 2001; Tajudin & Aprilianto, 2020). Although these noble values should serve as the essence of every subject, the implementation of Islamic value integration is often limited to religious studies or routine ritual activities.

This article centers on the challenges of integrating Islamic values into Mathematics instruction, a subject frequently perceived as devoid of value-based elements and confined to formulas. In fact, Mathematics education holds substantial potential for cultivating religious values such as discipline, honesty, and belief in the orderliness of the universe as evidence of divine oneness (Abdussakir, 2017; Rahayu et al., 2024). Several studies have shown that such integration effectively enhances students' motivation, academic achievement, and religious character (Imamuddin & Isnaniah, 2023; Fatmawati et al., 2024). Thus, this integration is essential as a bridge that explicitly connects character education grounded in Islamic values with the cognitive processes involved in learning Mathematics.

Despite its urgency and evident benefits, the implementation of Islamic value integration in Mathematics instruction, particularly at the lower secondary level (MTs/Islamic junior high schools) in East Java, remains suboptimal. Preliminary findings at MTsN 10 Banyuwangi, MTs Darul Hikmah Mojokerto, and SMP Ma'arif NU Hasanuddin Surabaya indicate that the lesson plans (RPP) used by teachers demonstrate minimal integration, limited only to pre-learning activities such as greetings, prayer, and Qur'an recitation, without addressing the substance of the instructional content. While numerous studies focus on successful implementation models (e.g., Safitri et al., 2020), there remains a significant knowledge gap concerning why such integration has not been fully realized in practice.

Accordingly, this study aims to describe and critically analyze the challenges encountered by Mathematics teachers in integrating Islamic values into the teaching and learning process. The urgency of this research lies in its attempt to identify the practical root causes that hinder the attainment of holistic character education goals. The findings are expected to serve as a fundamental reference for stakeholders in formulating more effective policies and strategies to optimize the implementation of Islamic value-integrated Mathematics instruction.

Many studies have examined the implementation of Islamic values-integrated mathematics learning. One of them shows that three Islamic junior high schools have applied Islamic values and technology content in mathematics learning (Safitri, et al., 2020). However, few studies have specifically examined the obstacles in its implementation, especially from the teachers' perspective. Therefore, this study aims to describe the obstacles faced by teachers in implementing Islamic values-integrated mathematics learning. By describing these obstacles, it is hoped that this study can be used as a reference in implementing more optimal Islamic values-integrated mathematics learning.

B. METHODS

The present study employs a qualitative case study design to explore in depth the constraints faced by mathematics teachers in integrating Islamic values into instruction. The case study approach enables the examination of contemporary phenomena within real-life contexts and allows for comparisons across different institutional settings (Yin, 2018). Participants were selected using purposive sampling to ensure that they met specific criteria relevant to the research questions. Although purposive sampling may introduce selection bias, this risk was minimized by selecting teachers from three schools representing different geographical locations, institutional types, and teaching experiences.

The criteria for research subjects were clearly defined: teachers who had taught for more than three years in Islamic schools, prepared lesson plans in accordance with the curriculum, and were willing to be interviewed. Preliminary observations of lesson plans were conducted to ensure the relevance of the selected participants. Data were collected through semi-structured interviews conducted via WhatsApp. This was done to facilitate flexible scheduling and allow the researcher to access multiple schools across different locations. Although each participant was interviewed only once, the researcher maintained a focused line of questioning to obtain sufficient completeness and depth of information for analysis. This approach was chosen due to accessibility and availability constraints, while acknowledging the limitations related to data depth.

The primary research instrument was the researcher, who was responsible for developing the interview guide, conducting interviews, and analyzing the data. The supporting instrument was the interview guide, consisting of nine questions designed to assist in data collection. Data were analyzed using the Miles and Huberman model, which includes data collection, data reduction, data display, and conclusion drawing. The analysis process involved classifying the discussion of each interview topic, which was then used to compare responses from the three teacher participants. To ensure data validity, source and method triangulation were implemented by comparing information derived from interviews with the three teachers from different schools, literature review, and analysis of instructional documents. Additionally, peer debriefing and literature examination were carried out to minimize researcher bias.

C. RESULT & DISCUSSION

The data obtained in this study is about the obstacles faced by teachers in implementing Islamic values-integrated mathematics learning. The three teachers agreed that Islamic values-integrated mathematics learning is important to implement. The first finding of this study concerns whether or not Islamic values have been implemented in mathematics learning integrated with Islam. The following are the results of interviews conducted by the researcher (P) with mathematics teachers at MTs Darul Hikmah Mojokerto, SMP Ma'arif NU Hasanuddin Surabaya, and MTsN 10 Banyuwangi:

G-1 = Mathematic Teacher in MTs Darul Hikmah Mojokerto

G-2 = Mathematic Teacher in SMP Ma'arif NU Hasanuddin Surabaya

G-3 = Mathematic Teacher in MTsN 10 Banyuwangi

First Findings

P : Baik, karena ibu mengajar di sekolah Islam, apakah ibu sudah mengintegrasikan Matematika dengan nilai-nilai keislaman dalam pembelajaran yang ibu terapkan?

G-1 : Selama saya menjadi guru matematika, saya masih jarang sekali mengintegrasikan dengan nilai-nilai keislaman dalam proses pembelajaran

Interview results with second teacher (G-2)

P : baik, karena ibu mengajar di sekolah islam, Apakah ibu sudah mengintegrasikan matematika dengan nilai-nilai keislaman dalam pembelajaran yang ibu terapkan?

G-2 : Iya betul memang saya mengajar di salah satu sekolah yang bernaungan islam atau milik yayasan Ma'arif, tetapi dalam mengajar matematika blm pernah mengintegrasikan dalam nilai keislaman

Interview with third teacher (G-3)

P :Apakah ibu sudah mengintegrasikan matematika dengan nilai-nilai keislaman dalam pembelajaran yang bapak/ibu terapkan?

G-3 : iya

Based on the interview results, it was found that the implementation of Islamic values in mathematics learning has not been maximized by most teachers. This finding shows that although the importance of integrating Islamic values into mathematics learning has been recognized, its application is still limited. This shows that even though it is an Islamic school, it does not automatically guarantee that Islamic values are integrated into all aspects of learning. This shows the need for further policies and support from the school.

Second Finding

Second finding is regarding the extent of the implementation of Islamic values integration in mathematics learning. The level of application of Islamic values in mathematics learning varies greatly. G-1 revealed that he rarely applies this integration in the learning process, while G-2 admitted that he never applies this integration in the learning process. The findings from G-3 show the potential for integration, although the focus is more on moral values in students' daily lives than on application in mathematical concepts. The following are the results of the interview with G-3

P : Sejauh mana ibu menerapkan pembelajaran matematika terintegrasi nilai-nilai keislaman?

G-3 : Sebatas kemampuan anak dalam memahami apa arti nilai-nilai keislaman dalam setiap kegiatan pembelajaran dan manfaatnya dalam kehidupan sehari-hari, seperti jujur dalam mengerjakan soal ulangan harian. Dengan sifat kejujurannya tersebut anak mampu menerapkan di kehidupan sehari-hari, menjawab pertanyaan dengan sopan dan santun. Dengan demikian anak dapat berbicara dengan lawan bicara dengan nada sopan serta santun kepada setiap orang.

This low level of implementation indicates a gap between awareness of the importance of integrating Islamic values and practice in the field. Although the concept of integrating religious values into mathematics learning is important, research shows that teachers often lack the

pedagogical competence to effectively integrate religious values into mathematics teaching (Dahlan et al., 2019).

Third Finding

Of course, in implementing something, there are obstacles. This finding discusses the obstacles faced in implementing Islamic values-integrated mathematics learning..

Interview with first teacher (G-1)

P :Baik, Apa yang melatarbelakangi ibu jarang menerapkan pembelajaran matematika terintegrasi nilai-nilai keislaman?

G-1 : Karena selama saya mengajar di lembaga ini, belum ada pemahaman dan workshop terkait penerapan pembelajaran yang terintegrasi dengan nilai-nilai keislaman.

G-1 : Sehingga saya mengajar sesuai KD dan tujuan pembelajaran saja

Interview with second teacher 2 (G-2)

P :Baik ibu, selain ini, apakah terdapat kendala-kendala lain yang menghambat ibu dalam menerapkan pembelajaran matematika terintegrasi nilai-nilai Islam?

G-2 : Terkait kendala lain mungkin masih kurangnya sumber daya guru yang memiliki kompetensi dalam ilmu agama, resistensi dari peserta didik maupun guru yang kurang memahami pentingnya integrasi nilai keislaman.

P :Baik, kalau dari panjenengan sendiri, apakah panjenengan kesulitan dalam mengintegrasikan materi matematika dengan nilai-nilai Islam?

G-2 : Iya

P :Kalau boleh tau kenapa ya ibu?

G-2 : Kalau saya pribadi banyak mbak alasannya. Saya bukan sarjana matematika yang dapat pemahaman terkait integrasi nilai-nilai keislaman. Selama saya di perguruan tinggi tidak pernah dapat materi terkait integrasi nilai-nilai keislaman. Di dalam lembaga sekolah saya jarang menemukan guru mapel umum menggunakan materi dengan nilai-nilai keislaman selama proses pembelajaran, kecuali pada mapel" keagamaan. Kurangnya pengetahuan saya tentang integrasi nilai-nilai islam

P :Apa yang melatarbelakangi ibu tidak menerapkan pembelajaran matematika terintegrasi nilai-nilai islam?

G-2 : Karena disekolah tempat yang saya ajar sudah banyak mata pelajaran yang berbasis agama seperti mapel PAI, ke-NU an, SKI dll. Sehingga saya mengajar fokus dalam matematika saja atau matematika murni.

P :Baik, selain karena sudah ada mata pelajaran yang khusus mempelajari agama Islam, adakah kendala lain yang menghambat ibu dalam menerapkan pembelajaran matematika terintegrasi nilai-nilai Islam?

G-2 :Kalau menurut saya, selain alasan tsb mengapa pembelajaran matematika tidak selalu diintegrasikan dengan nilai islami yaa krn fokus pada aspek logis dan objektif dari matematika yang bersifat universal. Krn, Matematika sering dianggap sebagai ilmu yang netral dan tidak terikat pada nilai-nilai agama tertentu.. Selain itu, dari berbagai latar belakang siswa untuk memahami konsep tanpa terpengaruh oleh pandangan agama, sehingga menciptakan lingkungan belajar yang inklusif.

Interview with third teacher (G-3)

P :Apa saja kendala yang ibu temukan saat menerapkan pembelajaran matematika terintegrasi nilai-nilai keislaman?

G-3 : Ada beberapa anak yang kurang fokus dalam kegiatan pembelajaran sehingga kurang mencerna apa yang disampaikan oleh guru, kemampuan siswa yang berbeda-beda dalam menangkap apa yang disampaikan oleh guru dan siswa yang memang kurang menyukai pelajaran matematika sehingga mengabaikan apa yang disampaikan oleh guru.

P : Baik, tiapi dari ibu sendiri, apakah mengalami kesulitan dalam mengintegrasikan materi matematika dengan nilai-nilai islam?

G-1 : Agak kesulitan kalo diintegrasikan khususnya dengan kandungan Al-Qur'an. Soalnya saya sendiri sekolahnya di umum. Maksudnya tentang Al-Qur'an. Entah itu banyak ayat

dalam surah tertentu atau yg lainnya

These findings highlight the various obstacles faced by teachers in implementing mathematics learning integrated with Islamic values. Based on interviews with three teachers, a number of obstacles related to understanding, competence, student characteristics, and the school environment were revealed. Several main categories of obstacles that hinder the implementation of mathematics learning integrated with Islamic values were identified as follows:

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1. Lack of Teacher Training and Understanding

Most teachers feel that they do not have sufficient understanding of how to integrate Islamic values into mathematics learning. This is exacerbated by the lack of training and workshops specifically addressing this topic, both during formal teacher education and in professional development at school. Although there is interest in obtaining adequate training, many prospective teachers still face deficiencies in the training they receive during their education (Rodriguez, et al., 2019).

2. Competence in Religious Studies.

Teachers such as G-2 stated that they did not have sufficient academic background in religious studies, so they felt they did not have sufficient skills to integrate Islamic values into mathematics lessons. According to research, teachers who do not have a religious background may feel less confident in linking mathematics material to Islamic values, which can lead to a lack of motivation to carry out such integration (Wahyu, 2022).

3. The Perception of Mathematics as a Neutral Science.

The view that mathematics is a logical, objective, and neutral science, so that integration with religious values is considered irrelevant. Teachers prefer to focus on "pure mathematics" and avoid integration, especially if they teach in schools that already have separate religious subjects, such as PAI and SKI. G-2 mentions resistance from both students and other teachers who may not understand the importance of integrating Islamic values into mathematics learning. This shows that awareness of the importance of integrating religious values into general education is not yet widespread among teachers and students.

4. Student Factors.

G-3 mentions that differences in students' abilities to understand the material and a lack of focus and interest in mathematics are also major obstacles in implementing mathematics learning integrated with Islamic values. Research shows that internal factors, such as students' lack of interest in mathematics and the perception that mathematics is a difficult subject, contribute significantly to low student interest in learning (Putri et al., 2019). In addition, low attention to subject matter, including mathematics, can hinder the overall learning process (Suyedi & Idrus, 2019).

Fourth Finding

The fourth finding in this study is about the most inhibiting obstacle among the obstacles mentioned.

Interview with first teacher (G-1)

P : Baik ibu, dari semua kendala yang sudah disebutkan, kendala apa yang paling menghambat penerapan pembelajaran matematika terintegrasi nilai-nilai keislaman?

G1 : Paling menghambat itu kurangnya pengetahuan saya tentang terintegrasi nilai-nilai keislaman, sehingga tidak terbiasa menerapkan saat pembelajaran

Interview with second teacher (G-2)

P : Dari semua kendala yang sudah disebutkan, kendala apa yang paling menghambat penerapan pembelajaran matematika terintegrasi nilai-nilai keislaman?

G2 : Tidak ada sih mba sebenarnya kl alasan yg paling menghambat, krn ya itu tadi. Lebih fokus ke murninya saja.

Interview with third teacher (G-3)

P : Dari semua kendala yang sudah disebutkan, kendala apa yang paling menghambat penerapan pembelajaran matematika terintegrasi nilai-nilai keislaman?

G3 : Siswa yang kurang menyukai pelajaran matematika karena mereka akan selalu mengabaikan apa yang disampaikan bahkan yang diperintahkan oleh guru. Mereka dalam mindsetnya sudah beranggapan matematika itu sulit, sehingga guru agak kesulitan dalam menerapkan nilai-nilai keislaman dalam bentuk lisan.

In the fourth finding, this study focuses on the most significant obstacles that hinder the implementation of mathematics learning integrated with Islamic values. Based on interviews with three teachers, several obstacles were identified, but each teacher had a different view on the main factors that hindered the implementation.

1. Teachers' Lack of Knowledge about the Integration of Islamic Values (G-1)

G-1 stated that the biggest obstacle he faced was a lack of knowledge and understanding of how to integrate Islamic values into mathematics learning. He felt unfamiliar with this approach because he did not have sufficient training or in-depth knowledge about integration. The importance of training: Limited knowledge makes teachers tend to focus only on pure mathematics without considering the religious values that can be incorporated into learning. If teachers do not receive training or guidance related to this integration, implementation will be difficult. This lack of basic understanding is a major obstacle because teachers do not have a sufficient foundation to begin integration effectively.

2. Focus on Pure Mathematics (G-2)

G-2 stated that there were no significant obstacles for him, but he preferred to focus on pure mathematics. G-2 felt that mathematics was a universal, objective science that was not related to religious values, so it did not need to be integrated with Islamic values. This perception of mathematics as a neutral science shows how mathematics is often viewed as a science that does not require a religious context. An excessive focus on logic and objectivity makes teachers like G-2 feel that integration is irrelevant or unnecessary. Mindset obstacles: These obstacles are more perspective-based, where teachers do not see the importance of integration. Although not considered "technical obstacles," this perception can affect the success of integration.

3. Lack of Student Interest in Mathematics (G-3)

G-3 revealed that the biggest obstacle faced was the lack of student interest in mathematics. Many students already had the mindset that mathematics was difficult, so they tended to ignore the subject. This made it difficult for teachers to integrate Islamic values, especially due to the lack of active participation from students. The influence of student attitudes on the implementation of learning. If students already have a negative perception of mathematics, the integration of religious values becomes difficult because students are not focused and are less engaged. This obstacle is related to student motivation and interest, which affects the overall effectiveness of learning. Student obstacles as an external factor: Although this obstacle is important, it is more external in nature, where the role of teachers in overcoming students' negative perceptions becomes a challenge in itself.

4. Implementation Obstacles in Mathematics Learning

Based on the results of previous research, which describes three indicators in mathematics learning integrated with Islamic values, including religiosity, learning motivation, and academic achievement. Through data analysis in this research, it is explained that these three indicators were not achieved because teachers were unable to integrate Islamic values

into mathematics learning. In fact, one of the informants stated that they had never integrated these values into mathematics learning activities. This obstacle was caused by the fact that teachers did not have standard guidelines or workshops to provide an understanding of this integration. The researcher assessed that integrating Islamic values into mathematics learning is indeed difficult, but it can be integrated into specific topics that tend to be easier to integrate, such as inheritance and zakat. Although it is difficult to integrate such learning with Islamic values, students can achieve these three indicators in other subjects.

D. CONCLUSION

The integration of Islamic values in mathematics learning is indeed beneficial and has a positive impact, especially for students. However, its implementation is not easy. There are several obstacles that cause this, namely the absence of standard guidelines for integrating Islamic values into mathematics learning, the absence of workshops organized by schools or related parties to support the implementation of Islamic values in mathematics learning, low student interest in mathematics learning, and teachers who consider that the integration of Islamic values into mathematics learning is unnecessary. These obstacles should serve as a reminder that teacher competency development needs to be carried out so that the expected learning outcomes can be achieved and be of high quality.

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