

## Madrasah Ibtidaiyah 4.0: Building Religious Moderation through Contemporary Educational Technology

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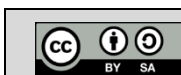
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### Abstract

This study examines the integration of Madrasah Ibtidaiyah 4.0, an educational model utilizing advanced technology to foster religious moderation in Indonesian Islamic primary schools. The research focuses on three Madrasah Ibtidaiyah (MI Al-Barokah, MI Darul Muta'allimin, and MI Nurussalam), chosen for their diverse geographical contexts (urban, border, and rural) and varying levels of technological infrastructure. The study includes 5 teachers, 3 principals, and 60 students from these schools as the primary research subjects. It explores how digital platforms, mobile applications, and online learning environments are used to teach Islamic values, with a focus on pluralism, tolerance, and anti-radicalism. Findings show that technology significantly enhances student engagement and understanding of Islamic teachings, providing opportunities for a moderate worldview. However, the study also identifies key challenges such as inadequate infrastructure, limited access to technology, and the need for teacher training. The study concludes that when implemented effectively, technology can be a powerful tool in promoting moderate religious values and creating an inclusive, balanced approach to Islamic education.

**Keywords:** Madrasah Ibtidaiyah 4.0, Religious Moderation, Educational Technology, Pluralism, Tolerance, Anti-radicalism, Islamic Education, Digital Platforms, Teacher Training,



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### INTRODUCTION

The integration of technology in education has become an essential aspect of modern teaching and learning, especially in the context of religious education. With the rapid advancement of digital tools and platforms, it is crucial for educational institutions, including Madrasah Ibtidaiyah (Islamic primary schools), to adapt and incorporate technology into their teaching methods. In Indonesia, the application of technology in Islamic education has the potential to enhance the delivery of religious content, promote critical thinking, and help build a generation that values moderation, pluralism, and tolerance in the face of increasing global interconnectedness and challenges of radicalization.

Madrasah Ibtidaiyah, as the foundation of Islamic education in Indonesia, has a significant role in shaping young minds. However, in an era where Islamic education is increasingly scrutinized for its potential to either foster tolerance or contribute to radicalization, the need to integrate modern educational technologies is more pressing than ever. The application of digital platforms, online learning environments, and interactive educational tools within these madrasahs can potentially reshape how Islamic values are taught, making them more relevant to the modern, pluralistic world while upholding traditional teachings of Islam. This transformation into Madrasah Ibtidaiyah 4.0 promises to improve the engagement, critical thinking, and moderation of students in their religious education.

This research is significant because it aims to explore the role of technology in enhancing religious moderation among students in Madrasah Ibtidaiyah, contributing to the broader discourse on Islamic education in the digital age. Given the growing concerns over extremism and the need for fostering more inclusive and tolerant educational environments, investigating how technology can contribute to this process is timely and highly relevant.

While previous studies have explored the use of technology in education, few have specifically addressed the role of digital tools in promoting moderation within Islamic primary education. This study contributes to filling this gap by investigating how Madrasah Ibtidaiyah 4.0 can use technological advancements to reshape religious pedagogy in a way that promotes Islamic values of peace, pluralism, and tolerance.

Previous research has examined the use of technology in education broadly, with many studies highlighting its positive effects on student engagement, motivation, and learning outcomes (Agustian & Salsabila, 2021; Firmansyah, 2019). Other studies have focused on the integration of technology in religious education, particularly in higher education or secular schools, emphasizing the potential for digital tools to enhance access to learning materials and improve learning efficiency (Hidayatullah et al., 2023; Rukmana et al., 2023). However, research directly examining the impact of technology on fostering religious moderation in Madrasah Ibtidaiyah is limited.

Additionally, much of the existing literature on Islamic education and technology focuses on urban schools or high school-level education, overlooking the unique needs and challenges faced by Madrasah Ibtidaiyah. Few studies have investigated how digital platforms can help instill moderate Islamic values and counter radicalization at the primary school level. This gap in the literature is especially evident in Indonesia, where the need for moderate religious education has become more critical due to increasing extremism and interfaith conflicts.

The current research seeks to fill this gap by examining the role of technology in promoting religious moderation within Madrasah Ibtidaiyah. Specifically, this

research will explore how technological tools can be integrated into the curriculum to enhance teaching about pluralism, tolerance, and anti-radicalism.

The objective of this study is to explore how Madrasah Ibtidaiyah 4.0, by integrating contemporary educational technologies, can contribute to the development of a moderate religious worldview among students. This research will focus on three madrasahs, MI Al-Barokah, MI Darul Muta'allimin, and MI Nurussalam, to examine how technology is used to teach Islamic values in a way that promotes moderation, tolerance, and pluralism in the context of Indonesia's diverse and plural society.

By investigating the integration of technology in these madrasahs, the research aims to provide insights into the effectiveness of digital tools in shaping a more inclusive and moderate understanding of Islam, helping to counter radical ideologies and fostering a peaceful, tolerant society. The findings will contribute to a broader understanding of how Madrasah Ibtidaiyah 4.0 can serve as a model for modernizing religious education while preserving Islamic teachings that align with the principles of peace, moderation, and respect for diversity.

This study seeks to bridge the gap between traditional religious education and modern technological advancements, providing actionable recommendations for improving religious education in Indonesia's Madrasah Ibtidaiyah and other similar institutions.

## **METHOD**

This study employs a qualitative research approach to explore the integration of technology in Madrasah Ibtidaiyah 4.0 and its role in promoting religious moderation among students in Indonesian Islamic primary schools. The research adopts a descriptive qualitative design, aiming to provide an in-depth understanding of how technology is utilized in religious education and how it impacts the development of a moderate Islamic worldview. The methodology consists of several key components, including the selection of research participants, data collection methods, instruments, and data analysis techniques.

The research participants include teachers, principals, and students from three Madrasah Ibtidaiyah located in different geographical contexts: MI Al-Barokah (urban area), MI Darul Muta'allimin (border region), and MI Nurussalam (rural area). A total of 5 teachers, 3 principals, and 60 students (20 from each madrasah) participated in the study. These participants were selected based on their direct involvement with the use of technology in teaching and their exposure to the technology-enhanced learning environment. The aim was to gather insights from both the educators and the students on how digital tools are integrated into the teaching of Islamic values, and how this integration influences their understanding of moderation, pluralism, and anti-radicalism.

Data collection was conducted using multiple methods, including semi-structured interviews, observations, and document analysis. Semi-structured interviews were conducted with teachers, principals, and students to understand their experiences and perceptions of technology in religious education. Teachers and principals were asked about their approaches to integrating technology into their teaching practices, while students were interviewed to gather their views on how technology affects their understanding of religious moderation and tolerance. Observations were conducted in classrooms to gather direct data on how technology was being used during lessons. The researcher focused on observing the use of digital platforms, mobile applications, and online learning tools in real-time teaching scenarios. Additionally, document analysis was employed to examine curriculum guides, lesson plans, official policies, and training materials that detailed how technology is embedded in the teaching framework of each madrasah.

To analyze the data, the research followed a coding and thematic analysis approach. The data collected from interviews and observations were transcribed verbatim and then coded to identify recurring themes and patterns related to the research questions. The coding process focused on key aspects such as technology integration, student engagement, religious moderation, and the challenges encountered in using technology. After coding, the themes were organized into broader categories that reflected how technology influences the promotion of moderate religious values. The data from interviews, observations, and documents were cross-checked through triangulation to ensure the validity and consistency of the findings. This process helped in verifying the results and identifying any discrepancies across different data sources.

## **RESULTS AND DISCUSSION**

### **Results**

The research findings indicate significant insights into how technology has been integrated into the teaching of Islamic values in Madrasah Ibtidaiyah 4.0, with particular attention to how it affects religious moderation. These findings, based on data collected through semi-structured interviews, observations, and document analysis, are summarized into key themes: the integration of technology, its impact on students' understanding of moderation, and the challenges faced in technology adoption.

#### ***Integration of Technology in Teaching Islamic Values***

The study found that **Madrasah Ibtidaiyah** in urban, border, and rural areas have integrated technology into religious education with varying levels of effectiveness, depending largely on their infrastructure and available resources.

1. **MI Al-Barokah**, in an urban area, demonstrated the most advanced integration of technology. Teachers used a wide range of **digital tools**, including **Google Classroom**,

**WhatsApp**, and other **interactive multimedia platforms**, to deliver Islamic lessons. These digital tools allowed students to engage with **Islamic content** in more dynamic and flexible ways, facilitating discussions on topics like **tolerance, pluralism, and anti-radicalism**.

2. **MI Darul Muta'allimin**, situated in a border region, had more limited integration of technology. While **Google Classroom** was used to distribute materials and assignments, the integration of **interactive learning** was less pronounced due to **internet connectivity issues**. Teachers relied more heavily on traditional face-to-face instruction and offline resources.
3. **MI Nurussalam**, located in a rural area, faced significant barriers related to **access to technology**. While some **audio-visual materials** were used to teach Islamic values, **online learning** and **digital platforms** were not fully integrated. The reliance on **traditional pedagogies**, such as **direct instruction** and **community-based engagement**, meant that technology was only used in a supplementary manner.

### **Impact of Technology on Students' Understanding of Religious Moderation**

The study found that the integration of technology had a positive influence on students' understanding of religious moderation and Islamic values:

1. At MI Al-Barokah, students reported a deeper understanding of moderate Islam through exposure to interactive digital content. They were able to engage in discussions on religious pluralism and tolerance via online forums, which enhanced their ability to think critically about Islam's place in a diverse world.
2. MI Darul Muta'allimin showed more limited effects but still positive outcomes. While the technology used was not as extensive as at MI Al-Barokah, students felt that the use of digital resources helped them reflect on issues of tolerance and coexistence. However, without opportunities for deeper interaction through online discussions, the impact on students' understanding of moderation was less profound.
3. At MI Nurussalam, the impact of technology was indirect but still notable. Students were exposed to audio-visual content on moderate Islamic values. While this exposure was limited compared to the other madrasahs, it still helped students understand key concepts like peace and respect for others.

### **Challenges in Implementing Technology**

Several challenges were identified in the process of integrating technology into Madrasah Ibtidaiyah 4.0:

1. **Infrastructure Issues:** The most significant obstacle was the lack of reliable internet and digital devices in MI Darul Muta'allimin and MI Nurussalam. While MI Al-Barokah was able to overcome these issues due to its urban setting, MI Darul Muta'allimin and MI Nurussalam faced challenges with inconsistent internet access and limited digital resources, which hindered effective technology use.
2. **Teacher Training:** Many teachers expressed a need for more training in digital literacy and pedagogical strategies for integrating technology into religious education.

Although MI Al-Barokah had some success in training teachers, both MI Darul Muta'allimin and MI Nurussalam reported gaps in teachers' ability to use technology effectively, often relying on traditional methods.

3. Resistance to Technology: Some teachers, particularly in MI Nurussalam, expressed resistance to the use of technology, preferring traditional, face-to-face methods of teaching. Concerns about the loss of personal connection and the fear that technology might oversimplify religious education were key reasons for this resistance.

## **Discussion**

The results of this study provide important insights into the integration of technology in Madrasah Ibtidaiyah 4.0 and its role in fostering religious moderation among students. These findings are discussed below in the context of the theoretical framework, followed by a comparison with previous research in the field. The discussion will also highlight the contributions of this study to the existing literature on educational technology in Islamic education.

### ***Integration of Technology and Its Impact on Religious Moderation***

The results reveal that the integration of technology in Madrasah Ibtidaiyah 4.0 had a notable impact on students' engagement with Islamic values, especially in terms of promoting moderation, pluralism, and tolerance. In MI Al-Barokah, the use of digital platforms such as Google Classroom and WhatsApp allowed students to engage with Islamic teachings in a more interactive and accessible way. This finding is consistent with constructivist theories of learning, particularly Jean Piaget's and Lev Vygotsky's views on active learning through social interaction and problem-solving (Piaget, 1952; Vygotsky, 1978). The study also aligns with the work of Hidayatullah et al. (2023), who emphasized that digital tools in education can enhance student participation, broaden their perspectives, and foster critical thinking about religion and society.

The engagement in online discussions on topics such as interfaith tolerance and pluralism promoted a deeper understanding of moderate Islamic values among students. This supports the findings of Agustian and Salsabila (2021), who argued that technology in education provides students with the ability to access diverse viewpoints and engage with materials that encourage tolerance and dialogue. In contrast, MI Darul Muta'allimin and MI Nurussalam had more limited access to technology, and the impact on students' understanding of religious moderation was not as significant. However, even in these schools, students were exposed to digital materials that facilitated a basic understanding of moderate religious values.

The results of this study contribute to existing research by specifically addressing the role of technology in fostering religious moderation in Madrasah Ibtidaiyah—a focus that has been largely underexplored in the literature. Previous studies have mainly concentrated on the benefits of technology in general education (Firmansyah, 2019; Rukmana et al., 2023) or in higher education settings, but few

have examined its role in the Islamic primary education context, particularly with respect to promoting moderation and countering radical ideologies. This study, therefore, fills a critical gap by demonstrating that technology can be a powerful tool in promoting Islamic values of peace, tolerance, and pluralism at the primary school level.

### ***Challenges in Technology Integration***

The study also identified several key challenges that impacted the successful integration of technology into the learning process. Infrastructure limitations were the most prominent obstacle, particularly in MI Darul Muta'allimin and MI Nurussalam, where inconsistent internet connectivity and limited access to digital devices hampered the effective use of technology. This finding aligns with previous research, such as Rukmana et al. (2023), who reported that infrastructure is one of the most significant barriers to the effective use of technology in education, especially in rural and border areas.

In terms of teacher training, the research found that professional development was needed to help educators better integrate technology into their teaching practices. While MI Al-Barokah benefitted from a more robust teacher training program, both MI Darul Muta'allimin and MI Nurussalam faced challenges in this regard, leading to limited integration of technology. Firmansyah (2019) also highlighted that teacher readiness is a key factor in the successful implementation of technology in education, which supports the findings of this study that point to the importance of training teachers not only in technical skills but also in pedagogical approaches for using technology effectively.

While previous research has emphasized the positive impact of technology on student engagement and learning outcomes, the focus has generally been on technology in general education (Agustian & Salsabila, 2021; Hidayatullah et al., 2023). However, this study adds a new dimension by examining how technology can contribute to religious moderation specifically in Islamic primary education. Unlike previous studies, which primarily addressed higher education or secular schools, this research shows how digital tools can be leveraged to promote Islamic values in a way that aligns with moderation, addressing a critical gap in the literature.

On the other hand, this study shares similarities with prior research that also identified challenges related to infrastructure and teacher training. Rukmana et al. (2023) and Hidayatullah et al. (2023) both pointed to the need for better internet access and teacher preparedness in implementing educational technology. This study's findings further reinforce these challenges, especially in rural and border areas, where access to technology remains limited.

This study provides further evidence to support constructivist and social constructivist theories of learning. Piaget's and Vygotsky's theories emphasize the role of active interaction and social context in learning, and the use of technology in

Madrasah Ibtidaiyah 4.0 provides a platform for students to engage with Islamic content in ways that encourage active learning and critical reflection. The use of interactive tools such as Google Classroom, WhatsApp, and online forums aligns with these theoretical frameworks by allowing students to interact with peers, teachers, and learning materials in dynamic, meaningful ways.

Moreover, Howard Barrows' Problem-Based Learning theory suggests that students should be given real-world problems to solve collaboratively, which aligns with how digital platforms in Madrasah Ibtidaiyah encourage students to work together to explore complex issues of religious pluralism and tolerance.

In conclusion, the findings of this study underscore the potential of technology to enhance religious education in Madrasah Ibtidaiyah 4.0, particularly in fostering moderate Islamic values. While the integration of digital tools holds great promise for engaging students and promoting religious moderation, the challenges of infrastructure, teacher training, and resistance to change need to be addressed to ensure that technology can reach its full potential in promoting tolerance, pluralism, and anti-radicalism in Islamic primary education.

This study contributes to the existing literature by filling a significant research gap on the role of technology in promoting moderation in Islamic education, and it offers valuable insights into how Madrasah Ibtidaiyah 4.0 can serve as a model for modernizing religious education while staying true to the core principles of Islamic values that promote peace and social harmony.

## **CONCLUSION**

This study explored the integration of technology in Madrasah Ibtidaiyah 4.0 and its role in promoting religious moderation among students in Islamic primary schools in Indonesia. The research findings revealed that the use of digital platforms, interactive tools, and online learning environments significantly enhanced the engagement of students with Islamic values, especially in terms of pluralism, tolerance, and anti-radicalism. Specifically, MI Al-Barokah demonstrated the most advanced integration of technology, allowing for meaningful discussions and critical engagement with topics such as moderate Islam and interfaith tolerance.

However, the study also identified significant challenges in the integration of technology, particularly in rural and border area schools like MI Darul Muta'allimin and MI Nurussalam. These challenges were primarily related to infrastructure limitations, including inconsistent internet access, lack of digital devices, and the need for professional development for teachers to effectively incorporate technology into their teaching practices. Despite these obstacles, the use of technology in these madrasahs, although more limited, still provided students with opportunities to engage with Islamic teachings and reflect on moderate religious values.

The research contributes to existing literature by filling a gap in understanding how technology can foster religious moderation in Islamic primary education—an area that has been relatively underexplored. By examining the practical applications of Madrasah Ibtidaiyah 4.0, this study offers valuable insights into the potential of digital tools to modernize Islamic education, enhance student engagement, and promote values of peace and inclusivity.

while Madrasah Ibtidaiyah 4.0 holds significant potential for fostering religious moderation through technology integration, overcoming challenges related to infrastructure, teacher preparedness, and cultural resistance is crucial for maximizing the effectiveness of this approach. The study highlights the need for targeted investments in digital infrastructure, teacher training, and curriculum development to ensure that technology can be leveraged effectively to promote moderate Islamic values across Indonesia's diverse educational landscape.

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