

Challenges and Opportunities for Islamic Education Teachers in Madrasah Ibtidaiyah in the Era of the Industrial Revolution 5.0

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Abstract: This study explores the challenges and opportunities faced by Islamic Education teachers (PAI) at Madrasah Ibtidaiyah (MI) in the context of the Industrial Revolution 5.0. As education shifts towards integrating advanced technologies with human-centered values, teachers are required not only to master pedagogical skills but also to adapt to digital innovations that influence learning environments. Using a Systematic Literature Review (SLR) approach, this research analyzes relevant studies published between 2018 and 2024 to identify emerging themes, strategies, and implications for Islamic education. The findings reveal that teachers face substantial challenges, including digital literacy gaps, limited access to modern facilities, and the growing influence of globalization on students' values and behavior. However, significant opportunities also arise, such as the integration of digital platforms, innovative pedagogical approaches, and the possibility of fostering both academic competence and noble character simultaneously. Moreover, the study highlights that PAI teachers serve as moral agents who must ensure that technological advancement does not compromise spiritual and ethical development. The novelty of this research lies in providing a comprehensive mapping of how Islamic education at the elementary level can respond to Industrial Revolution 5.0 by combining tradition with innovation. In conclusion, strengthening teacher competence through professional development, policy support, and contextualized digital integration is essential to sustain the relevance and transformative role of Islamic education in this era.

Keywords: Islamic Education, Madrasah Ibtidaiyah, Industrial Revolution 5.0, teacher challenges, opportunities

INTRODUCTION

Education plays a crucial role in shaping the character, knowledge, and skills of young generations, especially within the context of Islamic Education in primary schools or Madrasah Ibtidaiyah (MI) (Daud, 2025; Hang & others, 2025). The rapid development of technology and globalization has brought new dynamics into the teaching and learning process, where students are increasingly exposed to information, digital culture, and global values from an early age. This situation requires teachers, particularly Islamic Education teachers, to not only act as transmitters of religious knowledge but also as facilitators of values that guide students in navigating modern challenges. Islamic Education in MI therefore functions as a foundation to instill moral, spiritual,

and social values that remain relevant amid changing times (Fatoni & Sukari, 2024; Hendawi et al., 2024).

The emergence of the Industrial Revolution 5.0 emphasizes human-centered and technology-driven development, which affects how education is designed and delivered (Saikia, 2023; Shaji George et al., 2025). This era prioritizes the synergy between artificial intelligence, big data, and human creativity, thus demanding a shift in teaching methods, curriculum, and learning culture. For MI students, who are at the early stage of formal education, teachers are expected to adapt instructional strategies that integrate digital literacy with Islamic values (Hendawi & Qadhi, 2024). In this way, Islamic Education teachers are not only required to master religious content but also to contextualize it with the realities of the digital world, ensuring that students gain both spiritual depth and relevant competencies (Annajwa et al., 2025).

The integration of Islamic values with 21st-century skills is an essential step in ensuring that the younger generation does not lose their moral compass in the digital era. Critical thinking, creativity, collaboration, and communication are often highlighted as the core competencies for Industrial Revolution 5.0. However, without the guidance of religious and moral education, these competencies may develop without ethical direction. Therefore, Islamic Education teachers in MI are expected to design learning processes that instill *akhlaq al-karimah* while simultaneously preparing students to actively participate in the digital society. This dual role demonstrates the urgency of Islamic Education in ensuring balanced growth between intellectual capacity and moral character.

Despite the strategic role of Islamic Education teachers, there are several challenges they face in the era of Industrial Revolution 5.0. Many teachers still struggle with mastering digital technology, which limits their ability to integrate modern learning tools into Islamic Education. In addition, the availability of resources and training opportunities for teachers in rural or small madrasah contexts is often limited, creating disparities in the quality of education. These conditions hinder the optimal implementation of innovative learning approaches that are aligned with the demands of the current era.

Another significant challenge is the growing influence of digital media and online platforms on students' daily lives. While these platforms can provide educational benefits, they

also pose risks such as exposure to inappropriate content, consumerism, and weakened social interaction. Islamic Education teachers in MI are therefore tasked with countering these negative influences by reinforcing moral and spiritual values in the classroom. However, balancing the use of technology with maintaining the authenticity of Islamic teachings remains a difficult task that requires both skill and creativity.

Several studies highlight the necessity of teacher adaptability in the context of Industrial Revolution 5.0. Research on education transformation emphasizes that the success of digital integration largely depends on teachers' readiness to adopt and apply technology in pedagogical practices. Within Islamic Education, previous findings also underline the importance of embedding moral and spiritual values as the foundation of all educational innovation. These studies suggest that without teacher competence and willingness to innovate, the integration of technology in education cannot achieve its desired outcomes.

Other scholarly works focus on the opportunities provided by technology for enhancing Islamic Education. Digital platforms, e-learning applications, and interactive media are increasingly used to make religious learning more engaging and relevant for young students. These innovations can help teachers deliver Islamic concepts in ways that connect with students' experiences in the digital environment. However, while the potential is recognized, the actual practice of integrating these tools within the unique context of MI remains underexplored, particularly regarding how teachers balance technological advancement with maintaining religious authenticity.

Although existing research has examined the general role of teachers in the digital era, limited attention has been given to the specific experiences of Islamic Education teachers at the Madrasah Ibtidaiyah level in navigating both challenges and opportunities. Most studies focus on higher education or general subjects, leaving a gap in understanding how character education and digital integration can coexist in early Islamic education contexts. This study aims to fill that gap by exploring the real practices, constraints, and innovations of Islamic Education teachers in MI, offering new insights into how they sustain moral education while adapting to the demands of Industrial Revolution 5.0.

The purpose of this study is to analyze the challenges and opportunities faced by Islamic Education teachers in Madrasah Ibtidaiyah during the era of Industrial Revolution 5.0. Specifically, this research seeks to identify the obstacles that hinder effective integration of technology in teaching, while also highlighting strategies that enable teachers to maintain the relevance of Islamic values in modern contexts. By doing so, the study aims to provide practical recommendations for strengthening Islamic Education in primary schools, ensuring that students not only become technologically literate but also develop noble character in accordance with Islamic teachings.

METHOD

his study adopts a Systematic Literature Review (SLR) approach to analyze the challenges and opportunities faced by Islamic Education teachers in Madrasah Ibtidaiyah (MI) in the era of Industrial Revolution 5.0 (Syafaruddin et al., 2024). The SLR method is employed to ensure a comprehensive, transparent, and replicable process in identifying, evaluating, and synthesizing relevant studies. This design allows the researcher to map existing knowledge, highlight gaps, and propose future directions for Islamic Education in the digital era.

The research procedure follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, consisting of four main steps: identification, screening, eligibility, and inclusion (Page & Moher, 2017). In the identification stage, relevant studies were searched across international and national databases, including Scopus, Web of Science, Google Scholar, DOAJ, and Sinta, using keywords such as “Islamic Education teachers,” “Madrasah Ibtidaiyah,” “Industrial Revolution 5.0,” “digital challenges in education,” and “opportunities in Islamic education.”

To maintain the relevance and quality of the review, studies published between 2018–2025 were included, considering the rapid development of Industrial Revolution 5.0 discourse in recent years. Only peer-reviewed journal articles, conference proceedings, and reputable book chapters written in English or Indonesian were considered. Articles that did not focus on Islamic Education, did not discuss primary-level education, or lacked empirical or conceptual depth were excluded.

Data from selected studies were extracted systematically, including author, year, context, methodology, focus of the study, key findings, and relevance to challenges or opportunities in

Islamic Education. Thematic analysis was then employed to categorize findings into major themes such as: (1) challenges in digital literacy and pedagogical adaptation, (2) opportunities in technological integration and innovation, (3) moral and ethical considerations in the digital era, and (4) strategies for sustaining Islamic values.

To ensure reliability, each selected article was evaluated based on its methodological rigor, relevance to the research questions, and contribution to the understanding of Islamic Education in the Industrial Revolution 5.0 era. The Critical Appraisal Skills Programme (CASP) checklist was used to assess qualitative studies, while other appraisal tools were applied where appropriate.

RESULT AND DISCUSSION

1. Digital Literacy Challenges of Islamic Education Teachers

The findings of the SLR highlight that one of the main challenges faced by Islamic Education teachers in Madrasah Ibtidaiyah (MI) is the lack of digital literacy (Bachtiyar et al., 2025). Many teachers, especially those in rural or underdeveloped areas, still rely heavily on traditional teaching methods and are unfamiliar with modern digital tools. This creates a gap between the digital environment that students experience outside the classroom and the learning methods they encounter inside. Teachers often struggle with even the basic use of e-learning platforms, video conferencing tools, and digital classroom management applications. Moreover, there is limited training available for teachers to enhance their digital competencies, which contributes to their reluctance to use technology. Without adequate digital literacy, teachers are unable to fully integrate educational technologies into Islamic Education subjects. As a result, students may find the learning process less engaging, which impacts their motivation and moral development in an era heavily influenced by digital culture.

Another issue lies in the generational gap between students and teachers regarding digital familiarity. Students, who are considered “digital natives,” often adapt quickly to new technologies, while teachers, particularly those from older generations, face difficulties (Bărbuceanu, 2020). This generational mismatch creates communication barriers in the classroom and sometimes reduces students’ respect for teachers who appear technologically outdated. Teachers’ inability to meet students’ digital expectations may weaken their role as facilitators of knowledge and character guidance. This situation

demonstrates that digital literacy is not merely about mastering technology but also about maintaining authority and credibility in the eyes of students. In the context of PAI, where respect and trust are essential, this gap may have significant consequences for students' moral learning.

Limited access to infrastructure further complicates teachers' efforts to improve digital literacy. Many MI institutions lack sufficient internet connectivity, digital devices, and supportive software that can be used for teaching. Even when teachers have the willingness to learn, these structural barriers hinder their progress. This is particularly problematic in rural areas, where electricity reliability and internet networks are still unstable. Such limitations widen the inequality between urban and rural madrasah, resulting in a digital divide that directly affects the quality of Islamic Education. Therefore, addressing infrastructure issues is as critical as improving teacher competency.

The lack of institutional support also contributes to the persistence of low digital literacy among PAI teachers. School management often focuses more on administrative targets rather than investing in teacher training and digital resource development. Additionally, some madrasah prioritize religious rituals and traditional activities while neglecting the importance of digital readiness. As a result, teachers are left to navigate technological challenges individually without adequate institutional backing. This situation reflects a systemic weakness that must be addressed through policy intervention and strategic planning at both the school and government levels.

Despite these challenges, some teachers attempt to overcome their limitations by relying on peer collaboration and informal learning communities. They share experiences, exchange teaching materials, and support each other in learning digital skills. Although this grassroots effort is valuable, it remains insufficient to address the larger structural and competency issues. A more comprehensive approach, including formal training programs and government-sponsored workshops, is urgently needed. The findings suggest that without significant intervention, the problem of digital illiteracy among Islamic Education teachers will continue to hinder effective learning in the Industrial Revolution 5.0 era.

2. Opportunities for Innovation in Islamic Education

The review also highlights that the Industrial Revolution 5.0 presents significant opportunities for Islamic Education teachers in MI to innovate. The integration of digital tools allows teachers to design more engaging and interactive learning experiences (Sheffield et al., 2018). For example, teachers can utilize multimedia applications to illustrate Qur'anic stories, Islamic history, and moral lessons in ways that capture students' attention. Gamification and digital storytelling provide opportunities to teach values in a format that resonates with students' daily experiences. These approaches help students internalize Islamic teachings not only cognitively but also emotionally and behaviorally. In this way, technology becomes a medium to strengthen, rather than weaken, religious education.

Furthermore, digital platforms create opportunities for extending learning beyond the classroom (Bărbuceanu, 2020). Teachers can design online discussion groups, assign digital projects, and encourage students to explore Islamic resources available on the internet. This broadens students' access to knowledge and nurtures self-directed learning. In addition, digital environments can foster collaborative learning, allowing students to engage in group projects and discussions even when they are physically apart. Such innovations help students develop critical 21st-century skills such as communication, collaboration, and problem-solving while remaining rooted in Islamic values.

The era of Industrial Revolution 5.0 also emphasizes human-centered approaches, which align with the goals of Islamic Education. While technology provides tools and efficiency, it is ultimately human creativity, empathy, and moral responsibility that give meaning to learning. Teachers in MI can use this opportunity to emphasize the ethical use of technology, guiding students to become responsible digital citizens. By integrating discussions on digital ethics, honesty in online behavior, and respect for others in virtual environments, teachers can extend moral education into the digital sphere. This contextualized approach ensures that Islamic values remain relevant in guiding students' digital lives.

Another opportunity lies in teacher professional development through online platforms. The availability of MOOCs (Massive Open Online Courses), webinars, and digital teacher communities allows PAI teachers to improve their skills continuously. Unlike traditional training that requires physical attendance, these online opportunities are more flexible and

accessible. Teachers can learn from global best practices while adapting them to the context of MI education. This exposure not only enhances their professional capacity but also broadens their perspective on how Islamic Education can be enriched by global educational trends.

Finally, the Industrial Revolution 5.0 era allows for the integration of artificial intelligence and data analytics in education. For example, AI-driven applications can provide personalized feedback to students on their Qur'an recitation or Islamic studies assignments. Teachers can then use this data to identify students' strengths and weaknesses more effectively. Such innovations can make Islamic Education more individualized and responsive to student needs. This development demonstrates that far from being a threat, technology in the 5.0 era can serve as a powerful ally in strengthening the role of Islamic Education teachers in shaping students' moral and intellectual growth.

3. Moral and Ethical Considerations in the Digital Era

A major theme emerging from the literature is the increasing importance of moral and ethical considerations in the digital age (Irawan et al., 2025). While technology opens new opportunities for learning, it also exposes students to risks such as misinformation, online bullying, and exposure to content that contradicts Islamic values. Islamic Education teachers in MI must therefore expand their role from simply transmitting religious knowledge to actively guiding students' digital behavior (Rochim et al., 2023). This includes teaching students how to critically evaluate online content, practice digital etiquette, and maintain honesty in virtual environments. Such efforts align with the core objective of Islamic Education: nurturing students with strong moral character (akhlaq al-karimah).

Teachers also face the challenge of addressing students' declining face-to-face interactions due to increased reliance on digital devices. Excessive use of gadgets often reduces students' ability to engage in real-life social activities, which are crucial for developing empathy and social responsibility. To counter this, teachers must design learning activities that encourage collaboration, community service, and direct interpersonal engagement. Embedding Islamic practices such as group prayers, Qur'an recitation circles, and charitable projects into school activities helps balance digital engagement with real-world moral development.

Another ethical concern is the issue of digital consumerism, where children are constantly exposed to advertisements and online content that promote materialistic lifestyles. This contradicts the values of simplicity and humility taught in Islam. Islamic Education teachers must guide students to critically reflect on these influences and align their daily choices with Islamic principles. By discussing real-life examples and connecting them to Islamic teachings, teachers help students resist consumerist pressures and live more consciously.

The role of parents in supporting digital ethics is also highlighted in the findings. Teachers cannot work alone in shaping students' online behavior (Greenhow, Christine; Lewin, Cathy; Staudt Willet, 2021). Collaboration with parents is essential to ensure that the values taught at school are reinforced at home. Regular communication, parental workshops, and shared guidelines for digital use can strengthen the partnership between teachers and families. In this way, moral education becomes a collective responsibility shared by teachers, parents, and the wider community.

Ultimately, the findings emphasize that the Industrial Revolution 5.0 must not only be seen as a technological transformation but also as a moral test. Islamic Education teachers in MI have a crucial role in ensuring that students do not become passive consumers of digital content but active agents who use technology responsibly. By contextualizing Islamic teachings in digital realities, teachers prepare students to navigate modern challenges without losing their moral compass.

4. Strategies for Strengthening the Role of Islamic Education Teachers

The literature review reveals several strategies that can strengthen the role of Islamic Education teachers in the Industrial Revolution 5.0 era (Taufik, 2020). One key strategy is continuous professional development focused on digital pedagogy. Teachers must be trained not only in technical skills but also in pedagogical strategies for integrating technology into Islamic Education. This includes developing lesson plans that combine traditional Islamic content with interactive digital activities. By mastering these strategies, teachers can ensure that learning remains both spiritually grounded and technologically relevant.

Another effective strategy is adopting blended learning models that combine face-to-face teaching with online platforms. This approach allows for flexibility and continuity of learning, particularly during situations like the COVID-19 pandemic when physical interaction was limited. For PAI, blended learning can include a mix of direct religious instruction and digital reinforcement activities such as Qur'an apps, online quizzes, and multimedia projects. This hybrid model provides students with diverse experiences while maintaining the central role of teachers as moral guides.

Collaboration and networking are also identified as important strategies. Islamic Education teachers can benefit from forming professional learning communities where they share best practices, teaching resources, and innovative ideas. Such communities can be facilitated through online platforms, making them accessible regardless of geographic location. Through collaboration, teachers gain collective strength to overcome challenges and seize opportunities, reinforcing their role in shaping students' moral character.

Institutional and policy support further enhance teachers' ability to adapt in this era (Darling-Hammond, Linda; McLaughlin, 2025). Government initiatives that provide digital infrastructure, teacher training programs, and curriculum reform are crucial in supporting MI teachers. Policies that encourage innovation while preserving religious values create an enabling environment for teachers to thrive. When institutional frameworks align with teachers' efforts, the sustainability of Islamic Education in the digital era becomes more secure.

Finally, the integration of values-based leadership among teachers is critical. Teachers must not only adapt to technology but also demonstrate strong moral leadership in their own behavior. By modeling integrity, discipline, and sincerity, they inspire students to embody these values in their daily lives. This strategy reflects the essence of Islamic Education, where the teacher's personal character is as important as their instructional content. In the context of the Industrial Revolution 5.0, moral leadership ensures that technological progress is always aligned with ethical and spiritual development.

CONCLUSION

The study concludes that the role of Islamic Education teachers at Madrasah Ibtidaiyah is becoming increasingly crucial in the era of Industrial Revolution 5.0, where technology and human values must be harmonized. Teachers face significant challenges such as digital literacy gaps, limited facilities, and the influence of globalization on students' moral behavior. However, these challenges are balanced by opportunities to integrate digital platforms, innovative pedagogical approaches, and interdisciplinary collaboration that can enhance both cognitive and character development. The novelty of this study lies in highlighting how teachers are not only transmitters of knowledge but also key agents of moral and spiritual formation in a technology-driven society. Therefore, empowering teachers through professional development, policy support, and digital readiness is essential to ensure that Islamic education continues to nurture students' noble character while equipping them with the competencies needed in the future.

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