

Islamic Religious Education Learning Strategy in Facing the Era of Industrial Revolution 4.0 Innovation and Adaptation for the Millennial Generation

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Abstract: *This study aims to analyze effective learning strategies for Islamic Religious Education (IRE) in facing the challenges of the Industrial Revolution 4.0. Utilizing a literature review method, this research examines various sources discussing innovation and adaptation in IRE teaching for the tech-savvy millennial generation. Technology-based learning, such as e-learning and mobile applications, emerges as a solution to enhance student motivation and engagement. The integration of technology not only facilitates access to learning materials but also creates an interactive learning environment. Collaborative approaches and technology-based projects help students understand religious values in a relevant and contextual manner. Developing digital competencies for educators is also a key focus to ensure they can effectively utilize technology. The findings of this study are expected to guide educators in formulating adaptive and innovative learning strategies, thereby preparing millennials to face social and technological dynamics in the future. This research contributes to developing a curriculum that is more responsive to the changing times, particularly in the context of religious education.*

Keywords: *Learning Strategies, Islamic Religious Education (IRE), Industrial Revolution 4.0, Educational Technology*

Abstrak: Penelitian ini bertujuan menganalisis strategi pembelajaran Pendidikan Agama Islam (PAI) yang efektif dalam menghadapi tantangan era Revolusi Industri 4.0. Dengan menggunakan metode review literature, penelitian ini mengkaji berbagai sumber yang membahas inovasi dan adaptasi dalam pengajaran PAI untuk generasi milenial yang akrab dengan teknologi, pembelajaran berbasis teknologi, seperti e-learning dan aplikasi mobile, muncul sebagai solusi untuk meningkatkan motivasi dan keterlibatan siswa. Integrasi teknologi tidak hanya memudahkan akses terhadap materi ajar, tetapi juga menciptakan lingkungan pembelajaran yang interaktif. pendekatan kolaboratif dan proyek berbasis teknologi membantu siswa memahami nilai-nilai agama secara relevan dan kontekstual. Pengembangan kompetensi digital bagi pendidik juga menjadi fokus utama agar mereka dapat memanfaatkan teknologi secara efektif. Hasil penelitian ini diharapkan memberikan panduan bagi pendidik dalam merumuskan strategi pembelajaran yang adaptif dan inovatif, sehingga mampu menyiapkan generasi milenial untuk menghadapi dinamika sosial dan teknologi di masa depan. Penelitian ini berkontribusi pada pengembangan kurikulum yang

lebih responsif terhadap perkembangan zaman, khususnya dalam konteks pendidikan agama.

Kata kunci: Strategi Pembelajaran, Pendidikan Agama Islam (PAI), Revolusi Industri 4.0, Teknologi Pendidikan

INTRODUCTION

The Industrial Revolution 4.0 has brought major changes in various sectors of life, including in the world of education. Rapid technological advances, such as artificial intelligence (AI), the Internet of Things (IoT), and big data, have redefined the way humans work, learn, and interact (Wistina Seneru, S.Pd.B., M.Pd, Usman Tahir, et al., 2024, 24). In this context, Islamic religious education, which traditionally relies on conventional methods, must be able to adapt to the dynamics of changing times to remain relevant for the millennial generation living in this digital era (Nata, Prof. Dr. H. ABuddin Nata, 2020, 12).

The millennial generation has different characteristics from previous generations. They grew up in an environment that is highly connected with technology and easily accessible information. (Surbakti et al., 2023,3) This affects the way they learn and understand religion (Ramdani & Afandi, 2021, 67). Therefore, it is important for Islamic religious education to adopt learning strategies that not only teach religious aspects. But also utilize technology and innovation in the process. (Hufron, 2023,1) Thus, the millennial generation can learn Islam in a more interactive, interesting way, and in accordance with their lifestyle (Mujib, 2019, 89).

On the other hand, major challenges arise in the form of digital disruption that not only changes the way information is delivered. But also influences individual mindsets and behavior (Nasir & Hambali, 2021, 32). Islamic religious education must be able to offer innovative solutions that combine Islamic values with modern technology. Not only that, educators also need to adapt to technological developments to optimize effective learning strategies in the Industrial Revolution 4.0 era. This includes the use of online learning platforms, digital-based educational applications, and more flexible and personalized learning methods (Ali & Hasan, 2022, 76).

Innovation in Islamic religious learning is essential to answer the question: how can religious values be taught to a digitally connected generation, without losing the essence of religious teaching, This requires collaboration between educators, technology developers, and communities to develop curricula and approaches that are relevant to the context of the times (Zaini, 2021, 54). Thus, Islamic religious education is not only a static subject, but a dynamic, relevant, and meaningful learning for the daily lives of the millennial generation (Kurdi, 2023, 172).

This study aims to review various literature on Islamic Religious Education (PAI) learning strategies in the Industrial Revolution 4.0 era, with a focus on the innovation and adaptation needed to face these challenges. Through this review, it is hoped that an effective and applicable approach can be found in developing Islamic religious learning that is not only in accordance with technological developments but also prioritizes spiritual values and good morals. (Manan, 2023).

RESEARCH METHOD

This research method uses a qualitative approach with a literature review technique (Fahrina Yustiasari Liriwati, 2023,131) to analyze the learning strategies of Islamic Religious Education (PAI) in facing the Industrial Revolution 4.0 era, as well as innovations and adaptations that are relevant to the millennial generation. This research is descriptive-qualitative and relies on secondary data obtained from various literatures, such as scientific journals, academic books, research reports, and education policy documents. Literature sources are selected based on relevance, recency (last 5-10 years) (Kurniati & Jailani, 2023,1), and publication quality.

Data collection was carried out through a review of literature discussing Islamic Religious Education learning strategies, educational technology, and the characteristics of the millennial generation. The data obtained were analyzed using content analysis techniques (Bayu Indra Pratama, Choiria Anggraini, Muhammad Rizki Pratama, Azizun Kurnia Illahi, Dessanti Putri Sekti Ari, SE., MSA., 2021,1), starting by identifying main themes such as innovation in Islamic Religious Education teaching, utilization of technology, and challenges of digitalization in education. After that, the data was grouped, interpreted, and synthesized to produce recommendations (Suhartawan et al., 2024) regarding innovative and adaptive learning strategies for the millennial generation in the Industrial Revolution 4.0 era. Data validation was carried out using the source triangulation method, where data from various literature were compared to strengthen conclusions (Susanto & Jailani, 2023). The results of this study are expected to be able to provide guidance in developing effective Islamic Religious Education learning strategies, relevant to technological developments, and in accordance with the needs of the millennial generation.

RESULTS AND DISCUSSION

Definition of Islamic Religious Education

Islamic Religious Education (PAI) can be defined as an effort made consciously and planned to shape the character, personality, and knowledge of students so that they are faithful, pious, and have noble morals based on Islamic teachings. The main goal of PAI is to build individuals who not only have intellectual abilities but also strong spiritual and morals. This is in line with the

concept of education in Islam which emphasizes the balance between worldly and hereafter aspects.

According to Sukardi and Yusnaldi (2019, 52), Islamic religious education is "a comprehensive process to internalize Islamic teachings in students, both in cognitive, affective, and psychomotor forms, so that they are able to carry out their roles in personal, social, and national life in accordance with Islamic values. " Islamic Religious Education not only emphasizes theoretical understanding of Islamic teachings, but also practical applications in everyday life, so that students can practice religious teachings consistently in their lives.

In the context of the Industrial Revolution 4.0, the definition of PAI is increasingly developing by including aspects of technology and innovation. Sutrisno (2020, 29) argues that "PAI in the digital era can no longer focus only on conventional teaching methods, but must be adaptive to technological developments. Religious education must strengthen digital literacy based on Islamic values." This statement shows the importance of integrating technology in the religious education process to face the millennial generation who are more familiar with the digital world.

Islamic Religious Education (PAI) also has a big mission in building a generation that has moral integrity and the ability to think critically about social change. Abdurrahman (2018, 102) stated that "Islamic Religious Education must be able to form a generation that is not only ritually obedient but also critical of the challenges of the times, especially in facing the negative influences of technology and globalization." This means that PAI must provide students with the ability to face the challenges of the modern era while still adhering to Islamic principles.

From the several definitions above, it can be seen that PAI has a very broad scope, starting from the theoretical teaching aspect of religious teachings to practical applications in everyday life. This education does not only focus on intellectual development but also on spiritual and moral aspects, thus creating individuals who are balanced in the worldly and the hereafter.

The Objectives of Islamic Religious Education

According to Syafe'i (2017,15), "The main objective of Islamic religious education is to form human beings with Muslim personalities, who integrate aspects of faith, knowledge, and good deeds in everyday life." This shows that Islamic Religious Education (PAI) is not only oriented towards theoretical knowledge, but also emphasizes the formation of attitudes and actions that are in accordance with religious teachings.

1. Formation of Noble Morals

The formation of noble morals is one of the main objectives of Islamic Religious Education because morals are a reflection of the personality of a true Muslim. Hasanah (2018, 48) explains that "Islamic religious education plays an important role in instilling moral values, such as honesty, patience, and a sense of

responsibility, which are very necessary amidst rapid social change." This is very relevant in the context of the Industrial Revolution 4.0 era, where technology provides unlimited access to information that can have positive or negative impacts on the moral development of the younger generation.

In addition, Hidayatullah (2010, 23) argues that "moral education is the essence of Islamic Religious Education because, through morals, a person can become a role model for the surrounding community." This shows that the formation of morals is not only for personal interests but also has a broad social impact. Islamic Religious Education has a major role in building a generation with noble morals, especially amidst the challenges of digitalization which often shift traditional values.

2. Development of Faith and Devotion

Development of faith and devotion to Allah SWT is the main foundation in the objectives of Islamic Religious Education. Rahman (2015, 31) explains that "Islamic Religious Education aims to increase the faith of students by providing a comprehensive understanding of Islamic teachings, both in terms of faith, sharia, and morals." This understanding is important to protect the millennial generation from the negative influences of an increasingly open global culture.

Religious education must build a deep understanding of the relationship between humans and God so that it can produce individuals who not only understand their religion but also carry out His commands consistently. This shows that the purpose of Islamic Religious Education is not only to transfer knowledge, but also to form a spiritually strong personality.

3. Development of Social and Spiritual Skills

PAI also aims to develop social and spiritual skills, which are essential in the era of the Industrial Revolution 4.0. Sutrisno (2020, 36) stated that "Islamic religious education must provide social skills that include the ability to communicate, cooperate, and adapt to dynamic social changes." This emphasizes that PAI must adapt to the times so that students not only understand religious values but are also able to apply them in more complex social interactions.

In line with this, Zubaidi (2011, 58) argues that "PAI has an important role in developing the social and spiritual intelligence needed to build a generation with high ethics and able to appreciate differences." This is very important amidst the increasingly striking cultural and religious diversity due to globalization. Thus, PAI not only aims to build devout individuals but also those who are able to live in harmony with various cultural backgrounds.

4. Preparing a Generation Ready to Face the Changes of the Times

PAI also aims to prepare a generation that is ready to face the challenges of the times, especially in the context of rapid technological developments. Rohmah (2019, 112) states that "PAI in the Industrial Revolution 4.0 era must be oriented towards the formation of individuals who are adaptive and able to think critically about change so that they can respond to technological developments wisely

without losing their Islamic identity." This means that PAI does not only focus on forming strong characters but also on providing skills that are relevant to the needs of the times.

Islamic religious education must be able to produce a generation that is not only intellectually intelligent but also has the ability to apply Islamic values in facing global changes that are happening very quickly.

The Role of Islamic Religious Education in Character Building

Islamic Religious Education (PAI) has a very important role in the formation of students' character. Character is a moral foundation that is the basis for a person to behave, both towards fellow human beings and in their relationship with God. Character education in PAI aims to form individuals who are not only intellectually intelligent, but also have noble morals in accordance with Islamic teachings.

According to Zuhdi (2018, 65), "Islamic Religious Education is a systematic effort to shape the character of students through teaching Islamic values that include honesty, responsibility, discipline, and respect for others." This shows that PAI does not only focus on religious knowledge but also on internalizing ethical and moral values that are reflected in everyday behavior.

1. Strengthening Ethical and Moral Values

PAI plays an important role in instilling ethical and moral values that serve as guidelines for students in acting. Hasanah (2019, 43) explains that "ethical values such as honesty, justice, patience, and tolerance are the core of Islamic teachings, and Islamic Religious Education plays a role in internalizing these values in the character of students." These values become increasingly important in the context of the era of globalization, where many moral challenges are faced by the younger generation, especially in the digital world which often shows moral uncertainty.

In character formation, Munir (2017, 24) also emphasizes that PAI plays a strategic role in strengthening the moral foundations of students, especially in maintaining their integrity amidst the temptations of the digital era. "A strong character is not only determined by intellectual mastery but also by the ability to maintain moral values amidst rapid social change," he wrote.

2. Building a Strong Islamic Identity

One of the main roles of Islamic Religious Education in character building is to strengthen the Islamic identity of students. Kurniawan (2016, 78) states that "Islamic Religious Education serves to instill a sense of pride in Muslim identity and build awareness of the responsibilities of a Muslim in everyday life." A strong Islamic identity helps students to remain steadfast in religious principles even when faced with foreign cultural influences that often conflict with Islamic teachings.

Islamic Religious Education teaches students to understand and appreciate their Islamic heritage, both in terms of history and religious values. Hidayatullah (2010, 18) adds that "through Islamic Religious Education, students are expected to

be able to develop a balanced Islamic identity, which is able to interact with modernity without losing its religious roots." This is very important in the era of the Industrial Revolution 4.0, where globalization has influenced many aspects of life, including culture and religious values.

3. Instilling Discipline and Responsibility

Discipline and responsibility are two main characteristics taught through Islamic Religious Education. Rahman (2018, 57) argues that "Islamic Religious Education functions to instill a disciplined attitude in carrying out religious obligations, such as prayer, fasting, and zakat, as well as social responsibility to others." The disciplined attitude instilled through daily Islamic worship practices helps students develop good habits and be responsible in their daily lives.

The attitude of responsibility is not only limited to personal responsibility to God but also extends to social responsibility to society. Syarif (2019, 89) states that "Islamic Religious Education encourages students to be aware of their role as part of a wider society so that they can contribute positively to social life and show empathy and concern for others." In this context, Islamic Religious Education plays a role in building high social awareness among the younger generation.

4. Developing Emotional and Spiritual Intelligence

Islamic Religious Education also plays a role in developing students' emotional and spiritual intelligence, which is very important in character formation. Goleman (2019, 92) argues that "Islamic Religious Education provides a strong foundation for the development of emotional intelligence, which includes the ability to manage emotions, build healthy relationships, and show empathy for others." This emotional intelligence is greatly needed in a world that is increasingly complex and full of social pressure.

In addition to emotional intelligence, Kholiq (2016, 53) emphasizes that "Islamic Religious Education helps students to develop spiritual intelligence, namely the ability to understand the meaning of life and the purpose of their existence in this world." This spiritual intelligence helps students to always remember that all their actions have consequences both in this world and in the hereafter. Thus, Islamic Religious Education plays a role in forming individuals who are not only academically intelligent but also have high spiritual depth.

5. Instilling Tolerance and Respect for Diversity

In the midst of the era of globalization marked by cultural and religious diversity, Islamic Religious Education also plays a role in instilling an attitude of tolerance. Lestari (2017, 29) explains that "Islamic Religious Education must be able to form students who are open to differences and able to appreciate diversity, without sacrificing the basic principles of Islam." Islamic Religious Education teaches the importance of living side by side in harmony, both with fellow Muslims and with adherents of other religions.

The tolerance taught through Islamic Religious Education includes respect for differences of opinion, as well as the ability to resolve conflicts peacefully. Farid

(2016, 44) adds that "Islamic religious education has a responsibility to create an inclusive society, where differences are seen as wealth, not a threat." This is very relevant in the context of the Industrial Revolution 4.0 era which often confronts the younger generation with wider diversity through technology and social media.

Industrial Revolution 4.0 Era Opportunities and Challenges

The Industrial Revolution 4.0 is a major transformation phenomenon in various sectors of life, especially in the industrial world, which is marked by the adoption of digital technology, automation, and artificial intelligence. Starting in the early 21st century, the Industrial Revolution 4.0 integrated information technology with industry, creating smart factories, autonomous systems, and interconnected networks. This phenomenon not only impacts the manufacturing sector, but also penetrates various aspects of the economy, society, and daily life.

The Industrial Revolution 4.0 is the fourth phase of major changes in the industrial world that previously began with the first Industrial Revolution in the 18th century. According to Schwab (2016), the Industrial Revolution 4.0 combines physical, digital, and biological technologies. Some of the characteristics of this era are the use of advanced technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), Big Data, and cloud computing.

The main concept of the Industrial Revolution 4.0 is the integration between the physical world and the digital world. With IoT technology, industrial machines can now be connected and communicate with each other automatically. This allows for real-time data analysis, which in turn increases production efficiency and reduces operational costs.

Impact on Industry

The Industrial Revolution 4.0 has brought many changes to the industrial production process. One of its main impacts is the creation of smart factories, where the entire production process can be monitored and controlled through an integrated system. This higher level of automation increases efficiency, reduces the risk of human error, and enables more flexible production that is tailored to consumer demand (Xu et al., 2018).

In addition, artificial intelligence (AI) plays an important role in processing and analyzing large amounts of data (big data). With the help of AI, companies can make more precise decisions based on deeper and more predictive data analysis. This technology is also used in predictive maintenance processes, where machine failures can be predicted before they occur, thus avoiding unwanted downtime (Lee et al., 2015).

However, this era also poses major challenges for the workforce. Automation and robotization have the potential to replace human jobs, especially in jobs that are repetitive and do not require special skills. According to a Mc Kinsey report (2017), around 30% of jobs in the manufacturing sector could be automated

in the next decade. Therefore, it is necessary to improve workforce skills through training and education programs to face the new demands of this era.

Social and Economic Impacts

The transformation that occurred in the Industrial Revolution 4.0 not only affected the industry, but also brought broad social and economic impacts. On the one hand, digitalization opens up new opportunities in job creation in the technology and digital services sector. For example, the emergence of jobs in data analysis, software development, and cybersecurity (OECD, 2019).

However, on the other hand, economic inequality can widen if there are no policies that support inclusivity. Large companies that are able to adopt this technology earlier will have a competitive advantage over small or medium-sized companies that may have difficulty accessing the technology. This can trigger an increase in economic inequality, both between developed and developing countries, and between people who have access to technology and those who do not.

Challenges in Implementation

Although the Industrial Revolution 4.0 offers many opportunities, its implementation also faces various challenges. One of the main challenges is cybersecurity. The more devices connected via the internet (IoT), the greater the risk of cyber attacks that can disrupt industrial operations. Companies must invest more in cybersecurity to protect their systems from hacker attacks.

In addition, there is still a digital infrastructure gap in various countries. Developing countries face obstacles in accessing the latest technology due to the lack of adequate infrastructure. This can hamper industrial growth in these countries, thus widening the digital gap between developed and developing countries (UNCTAD, 2020).

Islamic Religious Education Learning Strategy

Islamic Religious Education (PAI) has an important role in shaping the spiritual and moral character of students. Along with the development of technology and the demands of the Industrial Revolution 4.0 era, PAI learning strategies need to adapt to remain relevant and effective. Several studies have shown that PAI learning must be able to answer the challenges of the times, especially in terms of utilizing technology, building 21st-century competencies, and creating interesting learning experiences for the millennial and digital native generations.

One of the main strategies put forward by various pieces is the integration of technology in PAI learning. According to a study by (Putri Yulianti, et al., 2024), the use of technology such as interactive learning applications, e-learning, and social media can help students be more interested and motivated in understanding religious teachings. The use of this technology can also expand the reach and access to materials so that students can learn anywhere and anytime. Technology is able to

bridge the gap between conventional religious content and the learning preferences of the younger generation who are more digital.

Another strategy that is widely discussed in research is the Student-Centered Learning approach. According to (Saputra, 2023), Islamic Religious Education learning that focuses on active student involvement in the learning process can increase deep understanding and application of religious values in everyday life. Problem-based learning models, group discussions, and role-playing are effective strategies for exploring students' potential in solving real-life problems based on Islamic principles. This allows students to internalize religious values in a more contextual and relevant way.

In addition, the Inclusive and Humanist approach is also a trend in modern Islamic Religious Education learning. According to a study by (Schütze, 1997), Islamic religious education must prioritize tolerance, diversity, and interfaith understanding in a global context. Islamic Religious Education learning needs to include teaching the values of *Rahmatan lil alamin*, namely Islamic teachings that bring blessings to the entire universe. This approach is important for forming a generation that is not only ritually obedient, but also has broad insight, is tolerant, and contributes positively to a multicultural society.

However, the big challenge faced in implementing these strategies is teacher readiness. According to a study (Ilqam & Nursikin, 2024), many Islamic Religious Education teachers do not yet have adequate technological competence or are not yet accustomed to innovative learning approaches. Therefore, improving teacher competence through training and professional development is one of the important aspects that need to be considered in efforts to improve the quality of Islamic Religious Education learning in the era of the Industrial Revolution 4.0.

Overall, the existing literature emphasizes that Islamic Religious Education learning must be able to accommodate changes in the times through the integration of technology, a student-centered approach, and the application of inclusive values. This adaptive Islamic Religious Education learning strategy is not only able to create relevant learning for the millennial generation but also ensures that religious education remains a strong moral foundation amidst rapid social and technological changes.

CONCLUSION

From the literature study on Islamic Religious Education Learning Strategies in Facing the Industrial Revolution 4.0 Era, it was found that innovation and adaptation in teaching methods are important in order to face the challenges of the times. The use of digital technology, such as e-learning platforms and interactive learning applications, is very important to increase the accessibility and effectiveness of learning, especially for the millennial generation who grew up in the technological era. In addition, learning does not only focus on religious material, but also on developing 21st-century skills, such as critical thinking, problem-

solving, and digital literacy. Contextual and collaborative learning that is relevant to the daily lives of millennials is also the key to making Islamic Religious Education learning feel more meaningful and applicable. In addition, the emphasis on value-based and character-based learning, which focuses on instilling Islamic ethics and morals, is very important to maintain the Islamic identity of this generation amidst globalization. Islamic Religious Education teachers are expected to be able to develop creative and innovative teaching methods, such as flipped classrooms and project-based learning, which are not only interesting but also increase student participation. With these strategies, it is hoped that the millennial generation can face the challenges of the Industrial Revolution 4.0 era with high intellectual competence and a strong foundation of religious values.

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