



# Implementation of the Independent Curriculum in Technology-Based Islamic Education Learning Responds to Changes in Students' Attitudes

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## ABSTRACT

The important role of Islamic Religious Education (PAI) learning in shaping character, morals, and strengthening spiritual and religious values in students in the Industry 4.0 era. This study aims to examine the implementation of the independent curriculum in PAI learning with a focus on technology integration as a response to changes in community attitudes and the demands of the increasingly developing world of work. The research method used is a qualitative approach with literature analysis and in-depth interviews with PAI teachers. The results of the study show that the integration of technology in PAI learning not only improves the quality of learning, but also facilitates the development of relevant attitudes and skills, such as creativity, collaboration, and adaptation. As a result, PAI education that is integrated with technology and strengthens spiritual values is the key to preparing students to face challenges and opportunities in the Industry 4.0 era, as well as forming a generation that is ready to face rapid global change.

**Keywords:** IKM, Islamic Religious Education learning, Attitude

## ABSTRAK

Peran penting Pembelajaran Pendidikan Agama Islam (PAI) dalam membentuk karakter, moral, serta memperkuat nilai-nilai spiritual dan keagamaan pada siswa di era Industri 4.0. Penelitian ini bertujuan untuk mengkaji implementasi kurikulum merdeka dalam pembelajaran PAI dengan fokus pada integrasi teknologi sebagai respons terhadap perubahan sikap masyarakat dan tuntutan dunia kerja yang semakin berkembang. Metode penelitian yang digunakan adalah pendekatan kualitatif dengan analisis literatur dan wawancara mendalam terhadap para guru PAI. Hasil penelitian menunjukkan bahwa integrasi teknologi dalam pembelajaran PAI tidak hanya meningkatkan kualitas pembelajaran, tetapi juga memfasilitasi pengembangan sikap dan keterampilan yang relevan, seperti kreativitas, kolaborasi, dan adaptasi. Dampaknya, pendidikan PAI yang terintegrasi dengan teknologi dan memperkuat nilai-nilai spiritual menjadi kunci dalam mempersiapkan siswa menghadapi tantangan dan peluang di era Industri 4.0, sekaligus membentuk generasi yang siap menghadapi perubahan global yang cepat.

**Kata kunci:** IKM, pembelajaran PAI, Sikap

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## A. INTRODUCTION

Islamic Religious Education (PAI) in shaping the character, morality, and religious identity of students amidst the dynamics of changing times. The central role of PAI is increasingly relevant in the digital era and industry 4.0, where information and communication technology has become an inseparable part of everyday life. In this context, the PAI learning approach that integrates technology has great potential to strengthen students' spiritual and moral values, while preparing them to face the challenges of the modern world.

The Independent Curriculum Integration of Industry 4.0 (KMI 4.0) is one of the curriculum renewal efforts in Indonesia that emphasizes the importance of utilizing technology in learning. This approach aims to prepare the younger generation to face the digital era, where technology-based competencies are crucial. Technology-based PAI learning in the implementation of KMI 4.0 not only offers the potential to increase learning effectiveness, but also optimizes student participation and answers the needs of more dynamic and relevant learning.

Changes in student attitudes are one of the important aspects in education, because attitudes reflect individual views, values, and behaviors in various life situations. In Islamic Religious Education learning, the expected changes in attitudes include increasing religious awareness, social concern, tolerance, and strengthening moral values. However, in the context of an ever-evolving digital culture, there are new challenges that must be faced in instilling these attitudes.

Previous studies have discussed various aspects related to the implementation of technology in education, especially in the context of Islamic Religious Education. However, studies that specifically examine the impact of technology integration on changes in student attitudes in Islamic Religious Education learning are still limited. This gap is the basis for this study to explore how technology-based Islamic Religious Education learning in the implementation of KMI 4.0 can affect student attitudes. This study is expected to provide deeper insight into the potential, challenges, and impacts of using technology in Islamic Religious Education learning, as well as offering a new perspective on adaptive and progressive Islamic religious education.

## B. METHOD

This study uses a qualitative study approach to explore the impact of technology-based Islamic Religious Education (PAI) learning on attitude change. The purpose of this study is to analyze and synthesize information from various written sources to understand the influence. The data used in this study include relevant primary and secondary literature. Primary literature includes academic journals, books, and research reports related to PAI learning and the use of technology in attitude change. While secondary literature includes articles, reports from educational institutions, government policies, and other digital documents that provide additional perspectives. Data were obtained from leading academic databases and digital libraries, selected based on relevance, credibility, and recent publications to suit the research topic. The collected data were analyzed using content analysis and thematic synthesis, where content analysis extracts key information and concepts from the literature, while thematic synthesis is used to identify patterns, relationships, and key themes that emerge. The results of this study were then compiled into a structured report that includes key findings and practical recommendations to support the application of technology in religious learning in

attitude change.(Fiantika et al. 2022).

## C. RESULT AND DISCUSSION

### 1. Islamic Religious Education Learning

Technology-based Islamic Religious Education (PAI) learning in the implementation of the Independent Curriculum Integration of Industry 4.0 is a response to the development of the era that demands education to adapt to the development of information technology and industry. In this context, it is important to explore the impact of technology integration in PAI learning on changes in student attitudes. First, the implementation of technology-based PAI learning allows easier and more flexible access to learning materials. Students can access various learning resources, videos, and applications that are relevant to Islamic religious learning more dynamically, which can increase their interest and involvement in the learning process. In addition, the use of technology in PAI learning allows for a more interactive and enjoyable learning experience. Through the use of multimedia, simulations, and educational games, students can be actively involved in learning, which can increase their understanding of Islamic religious concepts and encourage them to reflect on the values taught. The implementation of the Independent Curriculum in PAI learning at SLB Negeri 1 Ngawi shows that the learning process is adjusted to the formation of classes based on the child's developmental stage, as well as the use of various media and innovative methods.(2023)

The integration of technology in Islamic Religious Education learning also facilitates communication and collaboration between students and teachers and between students. Online learning platforms allow students to discuss, share ideas, and work together on learning tasks, which can form attitudes of cooperation, tolerance, and social awareness among them. However, there are several challenges that need to be overcome in implementing technology-based Islamic Religious Education learning. One of them is the uneven accessibility of technology across regions, which can lead to gaps in learning opportunities. In addition, the need for training for teachers in integrating technology effectively in Islamic Religious Education learning is also an important concern. Islamic Religious Education teachers in a junior high school have implemented learning methods that involve the use of media and learning resources, as well as innovative evaluation methods.(Nurhidayah, Ehwanudin, and Mida Hayati 2023)This shows that Islamic Religious Education teachers have begun to utilize technology in the learning process. Collaboration between teachers and parents in the context of full-day school learning during the Covid-19 emergency, which involves active communication between teachers and parents through various media.(Maruddani and Sugito 2022)Technology has played an important role in facilitating communication between various parties related to learning, to understand how technology can be used to facilitate communication and collaboration in the context of PAI learning.

### 2. Implementation of the independent curriculum for Islamic Education learning through technology to address changes in student attitudes.

The implementation of the Independent Curriculum in Islamic Religious Education (PAI) learning through technology in facing the industrial era 4.0 is an important step that allows learning to be more dynamic, relevant, and adaptive to the needs of the times.

strategies that can be applied in implementation through: "Utilization of Online Learning Platforms" Facing the industrial era 4.0, PAI learning can be modernized by utilizing online learning platforms. Teachers can use the platform to provide learning materials, assignments, and interactive exercises that can be accessed by students from anywhere and at any time (Samiatun 2022).

During online learning, collaboration between Islamic Religious Education teachers and parents of students is also important. They work together to support students' character learning, including through the WhatsApp Group and Zoom Meet platforms. (Adha and Darmiyanti 2022). "Utilization of Interactive Multimedia" Islamic Religious Education learning can be presented in the form of interactive multimedia, such as learning videos, animations, and simulations.

The use of multimedia not only makes learning more interesting, but also allows students to understand Islamic religious concepts more visually and practically. The use of multimedia in social studies learning in elementary schools can increase students' interest in learning. (Kiki and Haryanti 2023). The use of web-based interactive multimedia, such as Wordwall, can improve students' logical thinking skills and learning motivation. (Pepadu et al. 2023). The use of interactive multimedia in increasing students' interest in learning PKn in a Madrasah Tsanawiyah (MTs), which shows an increase in students' interest in learning after using interactive multimedia. (Employee nd).

Thus, the use of interactive multimedia has been proven to provide a positive contribution in increasing students' interest and learning outcomes. This shows the potential for using interactive multimedia also in the context of Islamic Religious Education (PAI) learning to improve the quality of learning and students' interest in learning. "Use of Augmented Reality (AR) and Virtual Reality (VR) Technology" the use of AR and VR technology in learning is important considering the increasingly rapid development of technology, especially in welcoming the metaverse era (Sugiarni et al. 2022). AR applications have also been utilized in the creation of Android-based object guessing games, which shows significant developments in the application of this technology. (Subari 2014). AR technology has also been used in various contexts, such as in recognizing fruit types using cloud recognition and image-based tracking methods. (Ningtias, Septiana, Abdul Aziz Efendi 2021).

Mixed Reality technology has also been applied in educational guidance for Maghrib prayers, which shows great potential in supporting multimedia-based learning. (Yusuf, Fauziah, and Gunaryati 2021). The use of AR and VR technology has shown great potential in supporting learning and various applications in various fields. AR and VR technology can be used to create immersive and realistic learning experiences.

**Teacher Training and Professional Development** Training for PAUD teachers in developing technology-based learning media (gamification). The result of this activity is the increasing professional competence of PAUD teachers in developing technology-based learning media. (Sofyan et al. 2023). The use of technology in the implementation of the Independent Curriculum of PAI allows for the collection of more structured and accurate learning data. Teachers can use this data both individually and in groups, to help them understand areas for improvement and plan corrective actions. (Junita, Karolina, and Idris 2023)

Data collection techniques that can be used in data-based evaluation and feedback in Islamic Religious Education (PAI) learning Interviews: This data collection technique

can be carried out by interviewing PAI teachers, students, or other related parties to obtain information related to the learning process, student understanding, and obstacles that arise in PAI learning. (Gusnandy Gusnandy et al. 2023).

Active learning models in improving student learning outcomes in Islamic Religious Education subjects in junior high schools, which can be a basis for integrating technology in Islamic Religious Education learning. (Qodariah, Nan Rahminawati, and Ikin Asikin 2023). Globalization of Islamic Religious Education curriculum in the era of industrial revolution 4.0, which emphasizes the development of local education through a global value chain approach and upgrading of educational graduate products. (Kusmawati and Surachman 2019)

The implementation of the independent curriculum in Islamic Religious Education (PAI) learning uses technology as the main means to face the challenges posed by the Industrial Era 4.0. This curriculum is designed to utilize technological advances to improve the quality and effectiveness of learning, while preparing students to be better prepared to face rapid changes in the world of work and everyday life that are increasingly influenced by sophisticated technology.

### 3. Industry 4.0 integration addresses changing attitudes

Industry integration has become an increasingly relevant topic in education due to its significant impact on preparing students for the changing world of work. Industry 4.0 encompasses the use of digital technologies such as artificial intelligence, the Internet of Things (IoT), big data, and cloud computing to improve production efficiency, product quality, and inter-system connectivity. In addressing the changing attitudes of students towards Industry 4.0 integration, several aspects need to be considered.

**Technology Readiness** Technological developments have had a significant impact on learning and teaching methods, and have the potential to improve students' digital literacy as an effective learning resource. (Retno Dewi Priskusanti et al. 2023) technology that can be used to improve student readiness. E-Learning, The use of e-learning can improve students' digital literacy as an effective learning resource (Retno Dewi Priskusanti et al. 2023). Digital Health Education, Digital health education can be used to improve students' knowledge and readiness in facing physical changes, such as menarche in elementary school students. (Rodiyah, Andayani, and Anis Satus Syarifah 2023).

**Eclectic Method**, The use of eclectic methods in Arabic language learning has been proven effective in improving students' reading skills. (Samsudi, Hasan Ruzakki, and Andrian Firdaus 2023). The use of technologies such as e-learning, digital health education, and eclectic methods can contribute to improving students' readiness in various aspects of learning and life.

**Technology-Based Skills Development optimizes the use of technology**, the use of technology as a means of education can produce output that can follow or change the era for the better. Integrating technological developments in the learning process is something that is massive and must be done in order to improve quality and facilitate the learning process. (Ratnasari, Doyan, and Makhrus 2023). Using technology-based learning media, Technology-based learning media, such as audio, visual, and audio visual, can facilitate the learning process in terms of effectiveness and efficiency. This learning media can be implemented in all existing materials. (Mulyosari and Khosiyono 2023).

**Training and Workshops:** Training and workshops on the effective use of technology, including multimedia and social media, can enhance students' creativity and help them develop technology-based skills.(Sembiring, Sibuea, and Agus 2021)"Changes in Learning Approach"negative attitude changes in all aspects of attitude are reduced, but aspects of discipline, responsibility, and self-confidence need to be improved.(Nurul, Rustan, and Ajigoena 2023)

Significant influence on changes in learning attitudes in the aspects of accepting, appreciating, and being responsible. However, the responsible aspect does not show significant changes in attitudes because it takes a long time to reshape this attitude.(Juliandarini, Sudira, and Mutohhari 2023). This can be done through training and education programs that are integrated into the education curriculum.(Blessings of Pambudi, Adittyta Budiman, Aristika Widi Rahayu, Annisa Nur Rizka Sukanto 2023).

**Integrating Social Ethics in Learning,** Social ethics can be integrated into learning to help students understand the social impacts of technology and social media use. This can be done through the development of a curriculum that is integrated with social ethics and the use of social media.(Zaini 2019). Raising Awareness of the social and ethical impacts through social media, Social media can be used as a means to raise awareness of the social and ethical impacts related to the use of technology and social media. This can be done through social and educational campaigns spread through social media.(Wijaya, Ainun, and Arfiyanto 2023).

Awareness of the social and ethical impacts related to the industrial era 4.0 can be increased, so that it can help society in utilizing technology and social media wisely and responsibly. Students need to be given a strong understanding of the ethical implications of using new technologies and their impacts on society and the environment. This will help them become responsible professionals who care about the social impacts of their work.

**Mental and Emotional Readiness,** mental readiness of early childhood to face the Industrial Revolution 4.0 era, where it was found that children aged 4-6 years were ready to face technological advances in the Industrial Revolution 4.0 era, but they needed guidance and clear rules for using digital media from their parents.(Widiastuti and Yuliati 2023)Rapid changes in the industry can be stressful and uncertain. Students need to be equipped with mental and emotional readiness skills that enable them to face challenges and change with a positive and adaptive attitude. This involves building mental resilience, the ability to manage stress, and strong interpersonal skills.

Developing technology-based skills is becoming increasingly important to prepare students to adapt to rapid changes in the world of work. The use of technology-based learning media, such as audio, visual, and audiovisual, can increase the effectiveness and efficiency of the learning process, making it more accessible to all students. To support this technology integration, training and workshops are needed that focus on the effective use of technology. This training can enhance students' creativity and help them develop technology-based skills needed in the world of work. However, it is important to remember that changes in attitudes, such as increased responsibility and discipline, require time and ongoing support to be achieved.

Integration of social ethics in learning is essential to help students understand the social impacts of technology and social media use. This ethics education can be done through curriculum development that emphasizes the responsible and wise use of

technology, as well as through social campaigns disseminated through social media. Students' mental and emotional readiness also needs to be considered in facing the Industry 4.0 era. Students need to be equipped with skills to manage stress, build mental resilience, and develop strong interpersonal skills in order to face change with a positive and adaptive attitude.

For the integration of Industry 4.0 in education to be successful, collaboration between schools, universities, industry and government is essential. With a holistic and integrated approach, education can play a vital role in preparing the next generation to face the challenges and opportunities in the Industry 4.0 era.

#### **4. Changes in attitudes due to the integration of industry 4.0**

The integration of Industry 4.0 has brought about significant changes in attitudes in students, affecting the way they view education, careers, and life as a whole. "Attitudes Towards Technology" The impact of the integration of industry 4.0 on attitudes in families, education, and society can be very significant. The industrial revolution 4.0 brings about major changes in lifestyle patterns, daily behaviors, and technological challenges that affect families. Challenges and temptations that easily infiltrate family life through technology, communication, and information, as well as the rapid flow of materialism, can bring about major changes in lifestyle patterns and daily behavioral attitudes. (Romadhon and Bella 2023) The use of technology-based learning media, such as audio, visual, and audio visual, in increasing the learning motivation of elementary school students. This shows the acceptance and open attitude towards the use of new technology in the context of education. (Mulyosari and Khosiyono 2023).

Therefore, it is important to understand and adapt to these changes, both within the family and education, in order to maintain balance and face the challenges that arise. This shows the openness of farmers to new technologies that can help in potato farming activities. (Mamilianti 2020) "Attitudes Towards Continuous Learning" lifelong learning and skills development. Students are becoming more open to the idea of continuous learning and are aware of the need to continually develop new skills to stay relevant in the changing job market. Career coaching through skills development is recognized as a fundamental asset to reaching the pinnacle of a career.

Lifelong learning through formal, non-formal and informal education is considered the key to career success, and continuous learning and developing skills is considered essential for an employee. (River 2017). Teamwork and communication have a positive and significant influence simultaneously on employee work effectiveness. (Paat, Dotulong, and Pandowo 2023). These factors in improving performance and productivity, and show that teamwork and communication play a key role in achieving work effectiveness. (Masengi and Palandeng 2023). Creating new opportunities for entrepreneurship and innovation. Students begin to develop a more courageous and enthusiastic attitude to explore new ideas and create business opportunities. Factors that influence students' entrepreneurial intentions, including entrepreneurship education, environment, attitudes, motivation, and perceptions of entrepreneurship (Sitanggang and Sitanggang 2021). to explore the views of Muslim society regarding the factors that are emphasized in choosing an entrepreneurial profession and the contribution of entrepreneurs to the country's economic development. (Nazaruddin Ali Basyah 2016). the complexity of factors influencing entrepreneurial attitudes and intentions, and the

importance of education and environment in shaping attitudes and motivations towards entrepreneurship, They become more independent, creative, adaptive, and ready to engage in innovation and collaboration in an increasingly digitally connected work environment.

## D. CONCLUSION

Islamic Religious Education learning plays an important role in shaping students' character and morals, as well as strengthening spiritual and religious values. Through a holistic and integrated approach, Islamic Religious Education learning can make a significant contribution to shaping students' personalities. The implementation of the independent curriculum in Islamic Religious Education learning must pay attention to the integration of technology, especially in facing the Industry 4.0 era. Technology can be used as a tool to improve the quality of learning, provide wider access, and facilitate skills-based learning. The integration of Industry 4.0 has brought about significant changes in attitudes in society, including among students. Attitudes towards technology, continuous learning, creativity, collaboration, personal skills, adaptation, and entrepreneurship are becoming more important in facing rapid changes in the world of work. changes in attitudes that include an open attitude to new technology, continuous learning, creativity, teamwork, adaptation, and entrepreneurship. These changes in attitudes indicate the need for adjustments in education to prepare students to face the challenges and opportunities in the Industry 4.0 era. Islamic Religious Education learning, to integrate technology, strengthen spiritual and moral values, and facilitate the development of attitudes and skills that are relevant to future demands. Thus, education can play a key role in shaping a generation that is ready to face rapid global change.

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