

Deep Learning-Based Islamic Education Transformation : Innovation in Islamic Learning in the Digital Era

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Abstract : The development of information technology and digitalization has transformed almost all aspects of human life, including the world of education. The era of the Industrial Revolution 4.0 to Society 5.0 has given rise to new demands on the education system, including in the field of Islamic Religious Education (PAI). In PAI learning can no longer be maintained with a traditional approach that only focuses on lectures and memorization. Along with technological developments and changing demands of the times, especially the era of Society 5.0, PAI learning faces new challenges that require innovation and adaptation in learning approaches. Within this framework, the deep learning approach or in-depth learning is one strategy that can improve the quality of learning (Suwandi et al., 2024) including in the field of Islamic Religious Education (PAI). This study aims to describe the basic concepts and principles of deep learning in PAI learning, describe the transformation of PAI learning based on deep learning, describe the benefits, opportunities, and challenges faced in implementing deep learning in PAI learning and describe a PAI learning model based on deep learning that can improve students' 21st-century competencies without eliminating Islamic spiritual values. This study employed a library research method to analyze and understand the transformation of deep learning-based Islamic education in the digital era, based on relevant literature sources. The study results indicate that the Deep Learning Approach to Islamic Religious Education (PAI) offers significant potential as a learning innovation relevant to the digital age. With a model that incorporates mindful, meaningful, and joyful learning, Islamic Religious Education (PAI) can be a lesson that is not boring but transformative, developing students' intellectual and spiritual well-being. Successful implementation depends heavily on teacher preparedness, a flexible and relevant curriculum, technological support, and a school culture that encourages active participation and reflection.

Keywords : Deep Learning Approach; Digital Era; Islamic Religious Education; Learning Innovation; Society 5.0.

1. INTRODUCTION

The development of information technology and digitalization has transformed nearly every aspect of human life, including education. The era of Industrial Revolution 4.0 to Society 5.0 has created new demands on the education system, including Islamic Religious Education (PAI) (Naimi et al., 2025). Islamic Religious Education (PAI) is an integral component of the Indonesian education system, aiming not only to develop cognitive intelligence but also to develop students' moral, spiritual, and social character (Ghufron et al., 2023).

In Islamic Religious Education (PAI) learning, traditional approaches that focus solely on lectures and memorization can no longer be maintained (Naimi et al., 2025). Along with technological developments and changing demands of the times, particularly in the Society 5.0 era, Islamic Religious Education (PAI) learning faces new challenges that demand innovation and adaptation in learning approaches (Kesuma et al., 2025). Therefore, Islamic Religious Education (PAI) learning requires an approach that brings active student involvement, digital collaboration, and the use of interactive media, which are essential in 21st-century learning, such as critical thinking, collaboration, creativity, and communication (Astuti et al., 2021). Within this framework, the deep learning approach is one strategy that can improve the quality of learning (Suwandi et al., 2024), including in the field of Islamic Religious Education (PAI).

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In the context of Islamic Religious Education (PAI), this approach has great potential in improving the quality of learning because it not only emphasizes memorization of material such as verses of the Quran, daily prayers, or the pillars of worship, but also encourages students to reflect on their meaning and apply it in daily behavior. Islamic Religious Education is not only about theoretical knowledge, but also mastery of moral and spiritual values that must be internalized in life (Putri et al., 2024). Therefore, it can be stated that Islamic Religious Education learning that uses an in-depth learning approach will actively engage students in higher-order thinking processes (HOTS), so that they not only know about religious teachings, but also understand the essence of its values and how these values can be applied in practical life.

In this study, constructivism theory was chosen as the primary theoretical framework underlying the application of the deep learning approach in Islamic Religious Education (PAI) learning. Constructivism theory states that students do not merely receive information passively but actively construct their knowledge based on experience and direct interaction with the learning environment (Suryana et al., 2022). This is relevant to the deep learning approach proposed by Biggs & Tang (2011), who argued that the deep learning approach in education is not merely the use of technology but also an effort to deepen thinking processes, understand values, and connect knowledge to real life (Usman et al., 2022).

This study aims to describe the basic concepts and principles of deep learning in Islamic Religious Education (PAI) learning, describe the transformation of Islamic Religious Education (PAI) learning based on deep learning, describe the benefits, opportunities, and challenges faced in implementing deep learning in Islamic Religious Education (PAI) learning and describe how the deep learning-based PAI learning model can improve students' 21st-century competencies without eliminating Islamic spiritual values.

2. THEORETICAL STUDY

In Islamic Religious Education (PAI), deep learning means internalizing Islamic teachings into students' real-life behavior and actions. Therefore, integrating deep learning with digital technology is a strategic step to transform Islamic Religious Education (PAI) learning to be more reflective, interactive, and applicable. The deep learning approach refers to a learning strategy that focuses on in-depth understanding, critical analysis, and the application of concepts in real-life situations (Kemendikdasmen, 2025). The concept of deep learning emphasizes mindful, meaningful, and joyful learning—not just the accumulation of knowledge, but also the understanding, application, reflection, and internalization of values (Aliyah et al., 2025). This approach to learning can create a holistic and effective learning experience. Mindful learning increases students' awareness and focus, meaningful learning provides context and relevance, while joyful learning adds elements of fun and motivation. This integration can help students not only understand the material but also enjoy the learning process itself (Syafi'i & Darnaningsih, 2025).

The deep learning approach is not new, but the term has been around since 1976. It is not a new curriculum, but rather an approach to learning that has the potential to improve learning effectiveness, focusing on in-depth understanding, critical thinking, internalizing meaningful knowledge, and engaging in enjoyable learning (Khotimah & Abdan, 2025). Unlike surface learning, which emphasizes memorization and mechanical completion of tasks, deep learning requires students to actively engage in constructing knowledge through higher-order thinking and continuous reflection (Muhajjalina, 2025). According to Xiaoxia Tian, this approach effectively improves students' higher-order thinking skills (HOTS) and conceptual memory (Tian et al., 2023).

3. RESEARCH METHODS

This study uses a library research method that aims to analyze and understand the transformation of deep learning-based Islamic education in the digital era based on relevant literature sources. Data were collected through searching various references such as scientific journals, books, articles, research reports, and digital sources that discuss the transformation of deep learning-based Islamic education learning with technological developments. This approach allows researchers to explore ideas, theories, and concepts that have been developed by experts in the fields of education and technology, as well as

identify challenges and opportunities that arise in the implementation of deep learning-based Islamic education learning in the digital era. The analysis was carried out descriptively-qualitatively to provide an in-depth understanding of how the basic concepts and principles of deep learning in Islamic Education Learning, how the transformation of deep learning-based Islamic Education learning, what are the benefits, opportunities, and challenges faced in the implementation of deep learning in Islamic Education learning and what is the role of deep learning in improving students' 21st-century competencies .

4. RESULTS AND DISCUSSION

4.1 The Concept and Principles of Deep Learning in the Context of Islamic Religious Education

According to Cahyani (2025), a deep learning-based learning approach that integrates the concepts of mindful learning, meaningful learning, and joyful learning offers a new paradigm in education that is more humanistic and contextual. These three concepts focus not only on cognitive aspects but also pay attention to the affective and social dimensions of students, thus creating a more meaningful and enjoyable learning experience (Syafi'i & Darnaningsih, 2025).

Mindful learning emphasizes the importance of awareness and full attention in the learning process (Mustafa et al., 2025). This approach can help students focus more and become emotionally engaged in the material being studied, thereby improving comprehension and retention. Research shows that the application of mindful learning is effective in improving learning outcomes and self-control in students at various levels of education (Pratama et al., 2024).

Meaningful learning occurs when students can connect new information to their existing knowledge, making it more relevant and understandable. This approach encourages students to actively participate in the learning process, think critically, and apply knowledge in real-life contexts (Syafi'i & Darnaningsih, 2025). In the context of Islamic Religious Education, deep learning extends beyond understanding verses or hadiths to interpreting and connecting them to real life.

Joyful learning emphasizes the importance of creating a fun and motivating learning environment for students. With this approach, students are expected to enjoy the learning process, which in turn can improve their interest and learning outcomes (Syafi'i & Darnaningsih, 2025). Integrating these three concepts into deep learning can create a holistic and effective learning experience. This approach not only enhances students' cognitive understanding but also addresses their emotional and social aspects, resulting in more meaningful and enjoyable learning.

The three main dimensions of deep learning are understanding, applying, and reflecting, which align with the goals of Islamic education, which emphasize mastery of knowledge (*tafaqquh*), practice (*'amal*), and self-awareness (*muhasabah*) (Muhajjalina, 2025). A deep understanding of Islamic learning encompasses not only cognitive aspects, but also affective and psychomotor aspects, which can be achieved through a reflective and participatory learning process. Ideally, Islamic Religious Education (PAI) learning should not only emphasize cognitive aspects in the form of understanding the material, but also encourage the internalization of religious values and the actualization of religious attitudes in everyday life (Muhajjalina, 2025).

The principles of deep learning in the context of Islamic religious education from existing literature include:

- a) The bibliometric study "Mapping Deep Learning Research in Digital Transformation of Islamic Religious Education: Bibliometric Analysis 2015-2024" revealed that since 2015-2024 there has been a significant increase in publications that combine the concepts of deep learning and digital transformation in Islamic Religious Education (Hasanah et al., 2025).
- b) The research "PAI Learning Model Based on Deep Learning" in the Indonesian Education Journal states that deep learning in the PAI curriculum helps students not only memorize religious texts, but also understand their meaning, be able to think critically and reflectively about religious material, and apply it in everyday life (Aliyah et al., 2025).

- c) The research “Deep Learning Approach in Islamic History-Based Islamic Religious Education Learning” also emphasizes that deep learning in Islamic Religious Education involves the study of texts (the history of Islamic civilization), interpretive discussions, and reflection on values – so that students gain an understanding that is based on the context of Islamic history and applicable to modern issues (Restu Hoeruman et al., 2025).

It can be concluded from these references that the deep learning principles that emerge are:

- a) Active involvement of students in the learning process (not passive)
- b) The relationship between Islamic material and the contemporary context
- c) Reflection of spiritual and moral values in learning
- d) Use of media and methods that support the exploration, analysis, and application of Islamic values.

4.2 Transformation of Islamic Education Learning in the Digital Era

In today's digital era, learning is required to be more adaptive, interactive, and transformative, in line with advances in information technology and the changing characteristics of 21st-century learners (Muhajjalina, 2025). Today's learners are more accustomed to rapid access to information and a variety of learning media utilizing digital technology. Therefore, innovative learning strategies oriented toward in-depth learning are essential for a more effective and meaningful learning process.

The application of in-depth learning also reflects a transformative approach that prioritizes not only declarative knowledge but also fosters reflective awareness and spiritual engagement in students during the learning process (Hasanuddin et al., 2025). In the context of Islamic Religious Education (PAI) learning, this is crucial because the learning process is not only cognitive but also affective and psychomotor.

The transformation of Islamic Education (PAI) in the digital era is marked by a paradigm shift from traditional learning to technology-based and collaborative learning. This transformation encompasses three main dimensions:

- a) **Learning Paradigm Transformation**
Islamic Religious Education (PAI) learning, which was initially teacher-centered (teacher-centered learning), has now shifted to student-centered learning. Teachers are no longer the sole source of knowledge, but rather act as facilitators, spiritual guides, and designers of learning experiences. Students are encouraged to actively seek out, analyze, and internalize Islamic values in their lives. For example, in learning about honesty in Islam, teachers do not simply explain verses or hadiths but also facilitate reflective and critical discussions about honest practices in the digital world, such as maintaining integrity in social media use, avoiding online plagiarism, and disseminating valid information. This paradigm fosters digital spiritual and moral awareness, which are essential foundations for developing Muslim character in the 21st century (Gultom et al., 2025). This new paradigm aligns with the principles of deep learning, where students not only memorize religious concepts but also understand their meaning, connect them to social contexts, and actualize them in real-life actions (Khoiri & Akib, 2025).
- b) **Transformation of Media and Technology**
The second dimension is the transformation in the use of media and learning technology. Digital technology is now the primary means of strengthening deep learning processes in Islamic Religious Education (PAI). Teachers utilize various Learning Management System (LMS) platforms such as Google Classroom, Moodle, or Edmodo as interactive and collaborative classroom management tools. Additionally, tools like Kahoot!, Quizizz, or Canva AI are used to create reflective quizzes, design Islamic posters, and conduct online collaborative projects on Islamic values (Amanda, 2025).
Technology-based media innovations not only increase student participation but also make learning more contextual and enjoyable. (Anggara & Fahlevi, 2021) emphasize that the use of technologies such as Augmented Reality (AR) can help Islamic Religious Education (PAI) teachers introduce Islamic history, worship procedures, and even simulate the life of the Prophet Muhammad in an immersive manner. This

technology facilitates immersive learning experiences, enabling students to understand Islamic values concretely and reflectively.

Furthermore, the integration of interactive technology also promotes Islamic digital literacy. Through the use of digital media, students are trained to think critically about information, practice ethical online communication, and uphold Islamic values in cyberspace (Suhilmiati et al., 2024). Thus, digital technology is not merely a learning tool, but also a vehicle for preaching and strengthening religious character in the modern era.

c) Transformation of Evaluation and Assessment

The final transformation lies in the evaluation and assessment aspects. In the deep learning approach, assessments serve not only to measure cognitive knowledge but also thought processes, spiritual reflection, and the implementation of religious values in daily life.

This evaluation model holistically integrates cognitive, affective, and psychomotor dimensions, in line with the deep learning vision of producing critical thinkers, empathizers, and noble characters. Digital portfolio-based assessment also provides a platform for students to demonstrate their personal spiritual progress, beyond just written exam results (Rahman & Yusuf, 2023). Thus, the transformation of evaluation in Islamic Religious Education (PAI) is not simply a change in assessment techniques, but rather a paradigm shift toward reflective and spiritual evaluation, focusing on the appreciation of values, rather than merely mastery of concepts.

It can be concluded that the transformation of Islamic Education (PAI) learning based on deep learning in the digital era is not just about replacing the blackboard with a projector, but a comprehensive change in methods, media, teacher roles, and student involvement — all of which are oriented towards deep learning and Islamic values.

4.3 Benefits, Opportunities, and Challenges of Implementing Deep Learning in PAI

a. Benefits and Opportunities

- 1) Increasing student motivation and participation: The use of digital interactive media, videos, LMSs, and Islamic applications can make Islamic Religious Education (PAI) material more engaging and relevant to students' daily lives. Studies of interactive videos have shown increased student participation and thinking skills (Alwahid, 2020).
- 2) Deeper understanding: Deep learning enables students to think critically and reflectively, rather than simply memorizing. Studies in "Deep Learning-Based Islamic Religious Education Learning Model" (Aliyah et al., 2025) and "Deep Learning Approach in Islamic Religious Education Learning Based on Islamic History" support this (Restu Hoeruman et al., 2025).
- 3) Improving digital literacy and Islamic values simultaneously: By integrating Islamic values into digital media, students can learn digital ethics, honesty in cyberspace, and responsible use of technology. The study "Development of Islamic Values-Based Islamic Religious Education Learning Technology at MTs Al-Khoirot" emphasized collaboration between teachers and the integration of values into digital media content (Sholihah et al., 2025).
- 4) Access and flexibility: E-learning and digital learning allow students to access materials anytime and anywhere, which is especially helpful in hard-to-reach areas or during a pandemic. The study "Digital-Based Islamic Education Learning" identified access as a crucial factor (Syahrijar et al., 2023).

The explanation of the four points above is relevant to what Hidayat stated that deep learning can strengthen students' understanding, enrich students' learning experiences, create a more personal, interactive learning environment that suits the individual needs of students, and can access learning resources anytime and anywhere, enabling flexible and more contextual learning according to each situation (Santoso, 2025).

b. Challenge

- 1) Limited digital literacy among teachers: Many Islamic Religious Education (PAI) teachers are not yet fully familiar with or skilled in using interactive applications, AI, digital media, or LMSs. This is evident in numerous studies, such as "Development of Islamic Religious Education Learning Technology Based on Islamic Values at MTs Al-Khoirot" and "Digital-Based Islamic Religious Education Learning."
- 2) Unequal infrastructure: Internet access, hardware (computers, tablets, smartphones), and electricity stability are obstacles in some areas. The studies "Implementation of Digital Technology-Based Islamic Religious Learning to Face the Challenges of Society 5.0" (Hakim & Masumah, 2025) and "Digital-Based Islamic Religious Education Learning" address these issues.
- 3) Quality of interaction and reflection: While digitalization brings many benefits, some studies note that the lack of face-to-face interaction and direct dialogue can reduce the depth of student reflection and emotional engagement. For example, a study by Dhimas found that students still miss direct interaction (Alunandika, 2025).
- 4) The digital divide: Differences in access and use of technology between students in urban and remote areas, and between schools with more resources and those with fewer. This presents a real barrier to equitable implementation (Robbi & Syafi'uddin, 2025).
- 5) The difficulty of consistently integrating Islamic values with technology: The challenge of ensuring that digital content, interactive media, and technology evaluation do not undermine Islamic values or become superficial. The study "Developing Creative and Innovative Islamic Education Learning Strategies in the Digital Era" mentions the importance of integrating Islamic ethics and morals in digital learning design (Fathimah Raniyah et al., 2024).

The challenges of implementing deep learning, outlined above, align with Hidayat's statement that implementing deep learning within the Independent Curriculum presents diverse challenges, ranging from limited infrastructure, teacher competency, student readiness, to the implications of Islamic culture and values for the use of advanced technology. One of the main obstacles is infrastructure constraints, particularly in regions with limited economic resources.

To address the challenges and optimize Deep Learning-based PAI innovation, the following strategies are proposed:

- a) Teacher Professional Training & Development: workshops, mentoring, learning models that involve teachers in the design and reflection of in-depth learning practices (Fauzi et al., 2025).
- b) Curriculum & Assessment Reform: integrate Deep Learning elements such as projects, reflection, discussion, real-life applications; assessment should cover affective and spiritual domains, not just cognitive ones (Fauzi et al., 2025).
- c) Utilization of Educational Technology: digital platforms, interactive applications, multimedia media, blended learning to support exploration and meaningful experiences (Sholihah et al., 2025).
- d) School-Community-Parent Collaboration: the outside-of-school environment supports Islamic values; concrete activities in the community so that learning is not limited to the classroom (Kholil, 2021).
- e) Supportive learning environment: a school culture that values mistakes as a learning process, facilitates students to experiment, discuss critically, and reflect on themselves (Santoso, 2025)

4.4 The Role of Deep Learning in Improving Students' 21st-Century Competencies

Literature supports that deep learning-based Islamic Education learning can strengthen several 21st-century competencies:

- a) **Critical Thinking:** Students are encouraged to analyze religious texts in modern contexts, such as discussions on social justice, ethics in social media, and moral challenges in technological developments. Research on the "Deep Learning-Based Islamic Religious Education Learning Model" and the "Deep Learning Approach Based on Islamic History" shows that students who follow these models have better analytical skills (Aliyah et al., 2025).
- b) **Creativity:** Through the use of digital media and projects, students are encouraged to produce creative works related to Islamic teachings (e.g., Islamic educational videos, interactive digital content, small applications) as part of their learning (Mala & Masfufah, 2024).
- c) **Collaboration:** Digital and blended learning incorporate elements of online/offline group work, collaborative discussions, and peer feedback, all of which strengthen collaboration between students and teachers. The study "Blended Learning" in Islamic Religious Education (PAI) transformation identified collaboration as a key component (Hadi & Manshur, 2025).
- d) **Communication:** Students learn to convey religious understanding in writing, digitally, and orally through virtual media, using clear language and considering Islamic ethics. Through the use of LMS, educational social media, and interactive AI evaluation, communication becomes more diverse (chatbots, online forums, digital discussions) (Fauzi et al., 2025).

5. CONCLUSION AND SUGGESTIONS

Conclusion

The Deep Learning approach to Islamic Religious Education (PAI) offers significant potential as a learning innovation relevant to the digital age. With models that incorporate mindful, meaningful, and joyful learning, Islamic Religious Education (PAI) can be a lesson that is not boring but transformative, developing students' intellectual and spiritual well-being. Successful implementation depends heavily on teacher preparedness, a flexible and relevant curriculum, technological support, and a school culture that encourages active participation and reflection.

The transformation of Islamic education (PAI) based on deep learning presents a significant opportunity to address the challenges of the times without sacrificing Islamic spiritual values. The synergy between technology and religious education will create a generation of Muslims who are intelligent, creative, and morally upright, ready to face the complexities of the digital world, grounded in a solid foundation of faith.

Suggestion

It is hoped that through Deep Learning-based Islamic Education learning in the digital era, it can contribute to forming the spiritual and moral identity of students consistently and be more widely useful as a sustainable and meaningful Islamic religious education strategy.

REFERENCE LIST

- Aliyah, S. R., Norlianti, N., & Mukmin. (2025). *Deep learning-based PAI learning model*. *Indonesian Journal of Education*, 6(5). <https://doi.org/10.59141/japendi.v6i5.7798>
- Alunandika, D. (2025). *Evaluation of the effectiveness of Islamic religious learning programs in increasing students' social awareness in the digital era (Case study at Sabilillah Islamic Senior High School, Malang, Coarding School)*. *El-Ta'dib Journal*, 4(2). <https://doi.org/10.36085/eltadib.v4i2.7694>
- Alwahid, M. A. (2020). *Digital technology-based Islamic religious education learning model (Case study at public senior high schools in Depok City)*. [Unpublished manuscript].
- Amanda, R. (2025). *Application of deep learning-based technology to improve science concept understanding in sixth grade elementary school students*. *Cendikia Pendidikan*, 16(10). <https://doi.org/10.9644/sindoro.v3i9.252>

- Anggara, D., & Fahlevi, R. M. (2021). *Islamic religious learning with augmented reality technology for Diniyah children's groups (Issue 50)*. Proceedings of UIN Sunan Gunung Djati. <https://proceedings.uinsgd.ac.id/index.php/Proceedings>
- Astuti, M., Arifin, Z., Mutohhari, F., & Nurtanto, M. (2021). *Competency of digital technology: The maturity levels of teachers and students in vocational education in Indonesia*. *Journal of Educational Technology*, 5(3). <https://doi.org/10.23887/jet.v5i3.35108>
- Fatima Raniyah, N., Hasnah, N., & Gusmaneli. (2024). *Development of creative and innovative learning strategies for Islamic religious education (PAI) in the digital era*. *Dewantara: Journal of Social Humanities Education*, 3(2), 29–37. <https://doi.org/10.30640/dewantara.v3i2.2438>
- Fauzi, M. R., Zahro, S. F., Bashith, A., & Hakim, M. J. M. (2025). *Opportunities and challenges of artificial intelligence integration in the evaluation of Islamic religious education learning*. *EDUCASIA: Journal of Education, Teaching, and Learning*, 10(2), 217–227. <https://doi.org/10.21462/educasia.v10i2.345>
- Ghufron, D. M., Ikramina, M. B., & Anbiya, B. F. (2023). *Transformation of Islamic religious education learning in the digital era: Learning modalities and educational challenges*. *Al Burhan Staidaf Journal*, 3(2), 24–43. <https://doi.org/10.33507/pai.v3i2.1718>
- Gultom, Y., Candra, D., Dasopang, M. D., Sihombing, I., & Ali, M. K. (2025). *Islamic education in the digital era*. *Indo-MathEdu Intellectuals Journal*, 6(1), 455–464. <https://doi.org/10.54373/imeij.v6i1.2567>
- Hadi, M. S., & Manshur, A. (2025). *Transformation of Islamic education learning in the digital era: Blended learning strategies to improve the quality of education*. *Symponia: Journal of Islamic Religious Education*, 5(1). <https://doi.org/10.53649/symponia.v5i1.201>
- Hakim, A. R., & Masumah, N. A. (2025). *Implementation of digital technology-based Islamic religious learning to face the challenges of society 5.0*. *Al-Liqo: Journal of Islamic Education*, 10(1), 151–169. <https://doi.org/10.46963/alliqo.v10i1.2636>
- Hidayat, T., & Maulana, A. (2023). *Integration of digital literacy in Islamic education: Challenges and opportunities in the era of Society 5.0*. *International Journal of Islamic Educational Research*, 5(2), 98–110. <https://doi.org/10.31004/ijier.v5i2.412>
- Nurrahma, S., & Azizah, L. (2024). *Deep learning strategies for developing students' higher-order thinking skills in Islamic education*. *Journal of Innovative Learning Research*, 9(4), 215–228. <https://doi.org/10.56741/jilr.v9i4.932>
- Rahman, F., & Yusuf, M. (2022). *Digital transformation in Islamic education: The role of teachers in adapting to online and hybrid learning*. *Tadris: Journal of Islamic Education*, 17(2), 145–158. <https://doi.org/10.24042/tadris.v17i2.845>