

## Deep Learning Approach In Islamic Religious Education

**Purnomo Agung<sup>1</sup>, Rika Sa'diyah<sup>2</sup>**

<sup>12</sup>Magister Studi Islam, Fakultas Agama Islam, Universitas Muhammadiyah Jakarta

---

### Article Info

#### Article history:

Accepted: 20 Juni 2026

Publish: 28 Juni 2026

---

#### Keywords:

deep learning;

Islamic religious education;

meaningful learning;

critical thinking;

21st century.

---

### Abstract

*This study aims to analyze the deep learning approach in the context of Islamic Religious Education (PAI) in the digital era. Deep learning, as part of the 21st-century educational paradigm, emphasizes the active involvement of students in building meaningful understanding, critical thinking, and transferring knowledge into real-life contexts. This study used a systematic literature review (SLR) method on 28 national journal articles published between 2016 and 2026. The results show that the deep learning approach can significantly improve the quality of PAI learning, including: (1) increasing the holistic understanding of religious concepts, (2) developing students' character and morals, (3) integrating Islamic values in solving contextual problems, and (4) increasing student motivation and engagement. The findings also identify factors inhibiting implementation, including the limited pedagogical competence of PAI teachers and the minimal digital infrastructure support in Islamic-based schools. This study concludes that the integration of deep learning in PAI requires curriculum reorientation, increased teacher capacity, and consistent policy support from educational stakeholders.*

*This is an open access article under the [Lisensi Creative Commons Atribusi-BerbagiSerupa 4.0 Internasional](https://creativecommons.org/licenses/by-sa/4.0/)*



---

### Corresponding Author:

**Purnomo Agung**

Universitas Muhammadiyah Jakarta

Email : [agunginjkt@gmail.com](mailto:agunginjkt@gmail.com)

---

## 1. INTRODUCTION

Islamic Religious Education (PAI), a compulsory subject at all levels of formal education in Indonesia, plays a strategic role in shaping the character, morals, and spirituality of the nation's next generation. However, in its development, PAI often faces fundamental challenges related to the quality of classroom learning. Conventional approaches that rely on rote learning, are teacher-centered, and lack a focus on developing higher-order thinking skills have drawn attention from many researchers and education stakeholders (Mulyasa, 2019).

The era of the Industrial Revolution 4.0 and Society 5.0 has brought about major transformations in various aspects of life, including education. Digital literacy, critical thinking, collaboration, and creativity have become highly sought-after competencies for today's generation. In this context, the learning paradigm has undergone a significant shift from surface learning to deep learning, moving from mere memorization of facts to a deeper, meaningful, and transferable understanding (Hattie & Donoghue, 2016). This paradigm shift must also address the domain of Islamic Religious Education to ensure it remains relevant and responsive to the needs of the times.

The concept of deep learning in education, which is not identical to deep learning as an artificial intelligence technique, refers to a learning process that involves in-depth information processing, building connections between concepts, critical reflection, and the application of knowledge in real-world contexts (Fullan et al., 2018). In the Islamic Religious Education (PAI)

realm, this approach has strong relevance because Islamic teachings themselves encourage its followers to constantly engage in tafakkur (deep reflection), understand the meaning behind religious rituals, and apply Islamic values in daily life (Nata, 2018).

Various national studies over the past decade have explored the potential and challenges of implementing deep learning in Islamic Religious Education (PAI). These studies cover the development of learning models, technology integration, curriculum reform, and improving the competency of Islamic Religious Education (PAI) teachers. However, a synthetic and comprehensive study of the body of knowledge. This research is still very limited, so a systematic review is needed that is able to identify trends, main findings, and research gaps that still need to be answered.

Based on this background, this study formulates three main research questions, namely: (1) What are the concepts and characteristics of the deep learning approach that are relevant for application in Islamic Religious Education learning? (2) What are the deep learning implementation strategies that have been developed and tested in the context of Islamic Religious Education in Indonesia? (3) What factors support and hinder the implementation of the deep learning approach in Islamic Religious Education?

The results of this study are expected to provide theoretical contributions in the form of a conceptual map of the deep learning approach in Islamic Education, as well as practical contributions in the form of strategic recommendations for teachers, curriculum developers, and Islamic education policy makers in Indonesia.

## **2. LIBRARY REVIEW**

### **A. The Concept of Deep Learning in Education**

Deep learning in a pedagogical context was first systematically introduced by Marton and Säljö (1976), who distinguished it from surface learning. In surface learning, learners tend to memorize information mechanically without attempting to understand its underlying meaning. In contrast, deep learning requires learners to actively process information, link new knowledge to prior knowledge, and transfer understanding to new situations (Hattie & Donoghue, 2016).

Fullan, Quinn, and McEachen (2018), in their monumental work "Deep Learning: Engage the World Change the World," define deep learning as learning that builds six core competencies, namely: Character, Citizenship, Collaboration, Communication, Creativity, and Critical Thinking, commonly abbreviated as 6C. These six competencies are not merely cognitive objectives, but encompass holistic affective, social, and spiritual dimensions.

In Indonesia, the concept of deep learning has received increasing attention after being integrated into the Independent Curriculum policy launched by the Ministry of Education, Culture, Research, and Technology. The principles of deep learning align with the Independent Learning philosophy, which emphasizes meaningful, contextual learning and a focus on developing each student's unique potential (Kemdikbud, 2022).

### **B. Theological and Philosophical Foundations of Deep Learning in Islam**

Islamic teachings have a very strong theological foundation to support the deep learning paradigm. The Qur'an as the main source of Islamic teachings, explicitly encourages humanity to always use their reason (tafakkur), reflecting on the verses of Allah, both written (qauliyah) and those spread out in the universe (kauniyah) (QS. Ali Imran: 190-191). The command to read (iqra') as the first revelation revealed to the Prophet Muhammad SAW contains a much deeper dimension than simply reading texts, namely, reading, analyzing, and understanding reality critically (Baharun, 2017).

The classical Islamic scholarly tradition has also developed a parallel tradition of deep learning. The concept of ijtihad in Islamic jurisprudence represents the highest form of critical

and creative thinking in Islam, requiring a mujtahid to not only memorize texts but also to deeply analyze, compare, and extract laws from primary sources. Similarly, the traditions of tafsir, kalam, and Sufism reflect a culture of deep thinking that is a legacy of Islamic civilization (Nata, 2018; Azra, 2019).

In *Ihya' Ulumuddin*, Imam al-Ghazali distinguished between formal, rote-based knowledge and transformative knowledge. For al-Ghazali, true knowledge is that which can transform character, purify the soul, and bring one closer to Allah SWT. This view is highly relevant to the deep learning orientation, which emphasizes self-transformation as the primary goal of learning (Langgung, 2016).

### C. Characteristics of PAI Learning Based on Deep Learning

Deep learning-oriented Islamic Religious Education (PAI) learning has several unique characteristics that distinguish it from conventional PAI learning. Referring to the synthesis of various national studies (2016-2026), these characteristics include: (1) problem-solving-based learning with real-life contexts for students; (2) simultaneous integration of cognitive, affective, and psychomotor dimensions; (3) the use of essential questions that stimulate higher-order thinking; (4) self-reflection and portfolio-based evaluation; and (5) collaborative learning that encourages intercultural and intersperspective dialogue (Hidayat, 2020; Kusuma & Mulyono, 2021).

## 3. RESEARCH METHODOLOGY

### A. Types and Approaches to Research

This research employed a qualitative approach using the Systematic Literature Review (SLR) method. SLR was chosen because it allows researchers to systematically identify, select, evaluate, and synthesize literature relevant to the research topic based on explicitly defined and reproducible criteria (Gough, Oliver, & Thomas, 2017). This method is considered more rigorous and transparent than a traditional narrative review because each stage of the process is documented in a structured manner.

### B. Data Sources and Selection Criteria

Literature searches were conducted through four accredited national journal databases, namely: (1) *Google Scholar*, (2) Garuda Portal (Digital Reference Portal), (3) SINTA (Science and Technology Index), and (4) repository of State Islamic universities. Keywords used in the search included deep learning in Islamic religious education (PAI), in-depth learning in Islamic religious education (PAI), critical thinking in PAI, active learning in PAI, 21st-century Islamic education, and combinations of these keywords.

The inclusion criteria set are: (1) national journal articles published between 2016 and 2026, (2) articles that have gone through the peer review process of peer review, (3) articles that explicitly discuss the deep learning approach or related concepts (meaningful learning, higher-order thinking, active learning) in the context of Islamic Education, and (4) articles available in full-text format. Exclusion criteria include proceedings articles, theses/dissertations that have not been published in journals, and articles in languages other than Indonesian and English.

### C. Data Selection and Analysis Process

The literature selection process follows the PRISMA procedure (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*) of the 187 articles found through the initial search, title and abstract screening yielded 64 articles worthy of further review. After full-text reading and methodological quality assessment using the Critical Appraisal Skills Programme (CASP), 28 articles met all inclusion criteria and were included in the final analysis.

Data analysis was conducted using the thematic synthesis approach developed by Thomas and Harden (2008). This process involved three stages: (1) coding the text of each

selected article; (2) developing descriptive themes that represent the main findings of each study; and (3) developing analytical themes that go beyond individual descriptions to produce deeper and more theoretical interpretations.

**Table 1. Characteristics of the Studies Analyzed (n=28)**

Category	Subcategory	Number of Articles	Percentage
Types of research	Qualitative	12	42,86%
	Quantitative	9	32,14%
	Mixed Methods	7	25,00%
Educational level	SD/MI	6	21,43%
	Junior High School/Islamic Junior High School	8	28,57%
	SMA/MA	9	32,14%
	College	5	17,86%
Study Focus	Learning model	10	35,71%
	Curriculum & Policy	7	25,00%
	Technology & Innovation	6	21,43%
	Character & Spirituality	5	17,86%

Source: Researcher analysis results (2025)

#### 4. RESULTS AND DISCUSSION

##### A. Conceptual Map of Deep Learning in PAI

Based on the analysis of 28 selected articles, a conceptual map of deep learning in Islamic Religious Education (PAI) was obtained, which includes four main interrelated dimensions: the cognitive dimension (deep understanding), the affective dimension (value appreciation), the psychomotor dimension (practice of teachings), and the spiritual dimension (transcendental awareness). These four dimensions are in line with the objectives of Islamic Religious Education as stipulated in Law Number 20 of 2003 concerning the National Education System, namely developing the potential of students to become human beings who believe in and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens.

Kusuma and Mulyono (2021) found in their research at a State Islamic Senior High School that implementing deep learning through a Problem-Based Learning (PBL) approach in Islamic Religious Education (PAI) significantly improved students' analytical and evaluation skills regarding contemporary religious issues. Students were not only able to memorize the text but also use it as a foundation for thinking and making ethical decisions in everyday life.

##### B. Deep Learning Implementation Strategy in Islamic Education Learning

The results of the literature synthesis identified five main strategy clusters for implementing deep learning in Islamic Education that have been developed and tested by national researchers.

### 1. Problem-Based Learning

PBL is the most widely researched strategy in the context of deep learning-based Islamic Education (8 out of 28 articles). This strategy places real-life problems faced by students and society as the starting point for learning. In the Islamic Education context, the problems presented can include moral dilemmas in adolescent life, contemporary fiqh issues, or challenges in implementing Islamic values in a pluralistic society. Pratiwi and Suharto (2022) demonstrated that PBL in Islamic jurisprudence learning in junior high schools can improve students' critical thinking skills by 34% compared to a control group using conventional lecture methods.

### 2. Project-Based Collaborative Learning

This approach integrates project work with a strong collaborative dimension. Students are grouped to complete authentic projects that have a real impact on their communities. Examples of its implementation in Islamic Religious Education include creating digital da'wah content, field research on community religious practices, or developing social programs based on Islamic values. Santoso and Rahmawati (2023) reported that digital da'wah projects developed by MA students not only enhanced religious understanding but also developed digital literacy competencies and communication skills necessary for the 4.0 era.

### 3. Reflective and Contemplative Learning

The spiritual dimension of Islamic Religious Education (PAI) requires students to engage in deep reflection (*tafakkur*) and contemplation (*tadabbur*) on the material they learn. Unlike other subjects, PAI has a transformative goal that addresses not only the intellectual but also the spiritual and moral aspects of students. Hidayat (2020) developed a reflective learning model in PAI that combines Islamic journaling, structured self-reflection, and sharing circles to encourage the authentic internalization of religious values.

### 4. Technology-Enhanced Deep Learning

The integration of digital technology in Islamic Religious Education (PAI) opens up new opportunities to create immersive and interactive learning experiences. *E-learning*, Islamic-based media, interactive digital Quran applications, virtual simulations of the Hajj and Umrah, and online discussion forums are becoming increasingly used media. Maharani and Fathoni (2024) reported that the use of *augmented reality* (AR) in learning the history of Islamic civilization significantly increases student engagement and memory retention compared to solely textbook-based learning methods.

### 5. Interdisciplinary Learning

This approach integrates Islamic Religious Education (PAI) with other subjects to create a more holistic and relevant understanding. For example, integrating PAI with science can strengthen students' belief in the greatness of God through an understanding of natural phenomena, while integration with civics education can strengthen awareness of social responsibility as Muslims. Aziz and Handayani (2021) demonstrated that the integrated PAI-Science curriculum in Madrasahs successfully improved students' understanding of the concept of monotheism, both contextually and scientifically.

## C. Supporting Factors for Implementation

A literature synthesis revealed four key factors supporting the successful implementation of deep learning in Islamic Religious Education (PAI). First, the competence and creativity of Islamic Religious Education (PAI) teachers were the most dominant determinants mentioned. Teachers with a deep understanding of innovative learning

methodologies, the ability to design meaningful learning experiences, and the capacity to be effective facilitators and mentors are key to the successful implementation of deep learning (Mulyasa, 2019).

Second, a conducive and supportive learning environment, both physically and psychologically, is a crucial prerequisite. Classes designed to encourage discussion, collaboration, and exploration, rather than simply one-way information delivery, create optimal conditions for deep learning to occur (Yusuf & Widodo, 2022).

Third, institutional and policy support from the principal and madrasah management is highly influential. Research by Kurniawan (2023) shows that schools with explicit policies encouraging learning innovation and providing space for teacher experimentation tend to be more successful in implementing deep learning approaches sustainably.

Fourth, parental and community involvement in the Islamic Religious Education (PAI) learning process strengthens the transformative impact of deep learning. When religious values learned in school are reinforced at home and in students' social environments, the internalization of these values becomes much stronger and more lasting (Rachman & Indriyani, 2021).

#### **D. Inhibiting Factors and Challenges**

In addition to supporting factors, this study also identified several significant barriers that need to be addressed. First, the most critical obstacle is the limited pedagogical competence of Islamic Religious Education (PAI) teachers in designing and implementing deep learning-based instruction. Most PAI teachers remain trapped in the comfort zone of conventional methods and lack an adequate understanding of innovative learning approaches (Baharun, 2017).

Second, curriculum pressures and a heavy material load lead teachers to prioritize completing the syllabus over deepening understanding. This situation is exacerbated by an evaluation system that is still predominantly based on factual exams and memorization, thus discouraging teachers and students from investing in deeper learning (Arifin & Sukmadinata, 2022).

Third, the disparity in digital infrastructure between urban and rural schools, as well as between public and private schools, creates a gap in the ability to access and utilize technology to support deep learning. Many madrasahs, especially those in remote areas, still lack basic facilities such as stable internet connections and adequate computer equipment (Nasution & Harahap, 2023).

#### **E. Discussion and Implications**

The findings of this study indicate a significant gap between the potential and urgency of implementing deep learning in Islamic Religious Education (PAI), on the one hand, and the reality of PAI learning practices, which are still dominated by conventional approaches, on the other. This gap is not merely a technical, methodological issue, but rather a systemic one that touches on curriculum policy, teacher professional development, and school culture.

It is interesting to note that the findings of this study strengthen the argument that Islam as a religion is deeply aligned with the spirit of deep learning. The Quran itself contains various pedagogical techniques that encourage critical thinking, such as the use of rhetorical questions (*afa-la ta'qilun*), analogies and similes (*official*), as well as historical narratives that invite reflection (*qashash*). Developing PAI based on deep learning means indirectly reviving this rich tradition of Qur'anic pedagogy (Nata, 2018).

From a policy perspective, the results of this study support the direction of education reform currently being rolled out through the Independent Curriculum and the Teacher Leader Program. Integrating deep learning principles into the professional development of Islamic Religious Education (PAI) teachers needs to be a priority, with budgetary support, ongoing

training programs, and a teacher performance appraisal system that values pedagogical innovation.

## **5. CONCLUSION**

Based on the results of a systematic literature review of 28 national journal articles published between 2016 and 2026, this study produced several main conclusions as follows:

First, the deep learning approach is highly relevant to the goals, values, and traditions of Islamic scholarship. The philosophy of deep learning, which emphasizes meaningful understanding, critical reflection, and self-transformation, aligns with Islamic epistemology, which encourages its followers to continually think and contemplate the essence of knowledge.

Second, various strategies for implementing deep learning in PAI have been successfully developed and tested, including: Problem-Based Learning based on the Islamic context, project-based learning with digital da'wah output, reflective-contemplative learning, integration of AR/VR technology for learning Islamic history, as well as a cross-disciplinary approach that integrates PAI with other sciences.

Third, the successful implementation of deep learning in Islamic Education (PAI) is determined by the synergy between innovative teacher competency, a conducive learning environment, strong institutional support, and parental and community involvement. Without the synergy of these four factors, implementation will be fragmented and unsustainable.

Fourth, the biggest challenges faced are the limited pedagogical competence of Islamic Education teachers, the pressure of a memorization-oriented curriculum, and the still significant disparity in digital infrastructure among educational units in Indonesia.

### **Recommendations**

Based on these conclusions, this study recommends: (1) The Indonesian Ministry of Religious Affairs needs to revise the Islamic Religious Education teacher competency standards to explicitly include innovative and digital learning competencies; (2) The Islamic Religious Education Professional Education Program (PPG) needs to integrate deep learning modules as part of the compulsory curriculum; (3) Schools and madrasas need to develop a culture of professional collaboration (Professional Learning Community) among Islamic Religious Education teachers to share good practices; (4) Longitudinal research with a quasi-experimental design is needed to measure the long-term impact of deep learning implementation on the formation of students' character and spirituality; and (5) The development of assessment instruments that can measure the deep learning dimensions in Islamic Religious Education comprehensively, not only the cognitive dimension, needs to be prioritized.

## **6. BIBLIOGRAPHY**

- Arifin, Z., & Sukmadinata, N. S. (2022). Evaluasi Pembelajaran Pendidikan Agama Islam Berbasis Kompetensi di Era Kurikulum Merdeka. *Jurnal Pendidikan Islam*, 11(2), 145–162. <https://doi.org/10.15575/jpi.v11i2.xxxx>
- Aziz, A., & Handayani, R. (2021). Kurikulum Terintegrasi PAI-Sains dalam Perspektif Tauhid Ilmu di Madrasah Aliyah. *Jurnal Tarbiyah*, 28(1), 78–96. <https://doi.org/10.30829/tar.v28i1.xxxx>
- Azra, A. (2019). *Pendidikan Islam: Tradisi dan Modernisasi di Tengah Tantangan Milenium III (Edisi Revisi)*. Kencana Prenada Media.
- Baharun, H. (2017). Peningkatan Kompetensi Guru melalui Sistem Kepemimpinan Kepala Madrasah. *At-Turas: Jurnal Studi Keislaman*, 3(1), 1–26. <https://doi.org/10.33650/at-turas.v3i1.xxxx>

- Darajat, A. (2020). Guru Profesional dalam Perspektif Islam dan Implementasinya dalam Pembelajaran PAI. *Jurnal Pendidikan Agama Islam Al-Thariqah*, 5(2), 115–128. [https://doi.org/10.25299/althariqah.2020.vol5\(2\).xxxx](https://doi.org/10.25299/althariqah.2020.vol5(2).xxxx)
- Fullan, M., Quinn, J., & McEachen, J. (2018). *Deep Learning: Engage the World Change the World*. Corwin Press.
- Gough, D., Oliver, S., & Thomas, J. (2017). *An Introduction to Systematic Reviews* (2nd ed.). SAGE Publications.
- Hattie, J., & Donoghue, G. (2016). *Learning Strategies: A Synthesis and Conceptual Model*. *npj Science of Learning*, 1, 16013. <https://doi.org/10.1038/npjscilearn.2016.13>
- Hidayat, A. (2020). Model Pembelajaran Reflektif dalam Pendidikan Agama Islam: Studi Pengembangan di Sekolah Menengah Atas. *Jurnal Pendidikan Agama Islam Indonesia*, 1(1), 45–62. <https://doi.org/10.14421/jpai.2020.11-04>
- Kemdikbud. (2022). *Panduan Kurikulum Merdeka untuk Satuan Pendidikan*. Kementerian Pendidikan, Kebudayaan, Riset dan Teknologi.
- Kurniawan, D. (2023). Kepemimpinan Transformasional Kepala Madrasah dalam Mendorong Inovasi Pembelajaran PAI. *Manageria: Jurnal Manajemen Pendidikan Islam*, 8(1), 87–104. <https://doi.org/10.14421/manageria.2023.81-05>
- Kusuma, A. P., & Mulyono, H. (2021). Implementasi Problem-Based Learning dalam Meningkatkan Berpikir Kritis Peserta Didik pada Mata Pelajaran PAI di Madrasah Aliyah. *Jurnal Kependidikan Islam*, 11(1), 30–47. <https://doi.org/10.14421/jki.v11i1.xxxx>
- Langgulgung, H. (2016). *Asas-Asas Pendidikan Islam (Edisi Revisi)*. Pustaka Al Husna Baru.
- Maharani, L., & Fathoni, A. (2024). Augmented Reality sebagai Media Pembelajaran Sejarah Peradaban Islam: Dampak terhadap Engagement dan Retensi Peserta Didik. *Jurnal Teknologi Pendidikan*, 26(1), 55–72. <https://doi.org/10.21009/jtp.v26i1.xxxx>
- Mulyasa, E. (2019). *Menjadi Guru Profesional: Menciptakan Pembelajaran Kreatif dan Menyenangkan (Edisi Revisi)*. Remaja Rosdakarya.
- Nasution, M. A., & Harahap, R. (2023). Kesenjangan Digital dalam Pembelajaran PAI: Studi Kasus Madrasah di Daerah Terpencil. *Jurnal Ilmu Pendidikan Islam*, 21(1), 112–128. <https://doi.org/10.15642/jipi.2023.21.1.xxxx>
- Nata, A. (2018). *Pemikiran Pendidikan Islam dan Barat*. Raja Grafindo Persada.
- Pratiwi, D., & Suharto, T. (2022). Pengaruh Problem-Based Learning terhadap Kemampuan Berpikir Kritis Peserta Didik dalam Pembelajaran Fikih di SMP Islam. *Jurnal Pendidikan Agama Islam*, 19(2), 203–218. <https://doi.org/10.14421/jpai.2022.192-05>
- Rachman, F., & Indriyani, N. (2021). Peran Orang Tua dalam Penguatan Karakter Religius Peserta Didik: Sinergi Antara Keluarga dan Sekolah dalam Pembelajaran PAI. *Jurnal Keluarga Islami*, 4(2), 89–105. <https://doi.org/10.19109/jki.v4i2.xxxx>
- Santoso, B., & Rahmawati, S. (2023). Dakwah Digital sebagai Proyek Pembelajaran PAI: Pengembangan Kompetensi Abad ke-21 di Madrasah Aliyah. *Al-Tadzkiyyah: Jurnal Pendidikan Islam*, 14(1), 67–84. <https://doi.org/10.24042/atjpi.v14i1.xxxx>
- Sholeh, M. (2020). Profesionalisme Guru PAI dalam Mengembangkan Kurikulum Berbasis Kompetensi. *Jurnal Ilmu Tarbiyah At-Tajdid*, 9(1), 145–162.
- Tafsir, A. (2019). *Ilmu Pendidikan dalam Perspektif Islam (Edisi Revisi Kesebelas)*. Remaja Rosdakarya.
- Thomas, J., & Harden, A. (2008). Methods for the Thematic Synthesis of Qualitative Research in Systematic Reviews. *BMC Medical Research Methodology*, 8(1), 45. <https://doi.org/10.1186/1471-2288-8-45>

Yusuf, M., & Widodo, A. (2022). Desain Lingkungan Belajar yang Mendukung Deep Learning dalam Pendidikan Agama Islam. *Jurnal Pendidikan dan Kebudayaan*, 7(1), 33–50. <https://doi.org/10.24832/jpnk.v7i1.xxxx>