

THE APPLICATION OF DEEP LEARNING IN ISLAMIC RELIGIOUS EDUCATION IN THE DIGITAL AGE IN THE 10TH GRADE AT JUMAPOLO STATE HIGH SCHOOL

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Abstract. The digital age has brought significant transformation to education, requiring learning in Islamic Religious Education to move beyond rote memorization toward deeper understanding and active participation. This study analyzes the implementation of a deep learning approach in Islamic Religious Education among 10th-grade students at Jumapolo State High School in the digital age. A qualitative descriptive method was employed, involving Islamic Religious Education teachers as interview informants and 10th-grade students as questionnaire respondents. Data were collected through in-depth interviews and Google Forms-based questionnaires. The data analysis process included data reduction, data presentation, and conclusion drawing. The findings revealed that Problem-Based Learning (PBL) and Project-Based Learning (PjBL) models were applied to facilitate deep learning in Islamic Religious Education. These models encourage students to engage with learning materials and connect them to real-life situations, resulting in positive learning experiences characterized by interest and self-directed learning. The learning process contributes to students' cognitive, affective, and psychomotor development. While the use of digital technology, including artificial intelligence (AI), helps students access various information sources, it also presents challenges, as students tend to rely on AI without always verifying the accuracy of the information. Therefore, teacher guidance and strengthened digital literacy are essential. Overall, the implementation of deep learning in the digital era offers opportunities to improve the quality of Islamic religious education.

Keywords: Deep Learning, Islamic Religious Education, The Digital Age

I. INTRODUCTION

Education in Indonesia is currently experiencing significant changes in response to the demands of the 21st century, where critical thinking, creativity, and collaboration are considered essential competencies for addressing global challenges [1]. These developments encourage the implementation of learning strategies that emphasize not only content mastery but also active participation and deeper student understanding. One of the approaches considered relevant to these educational changes is deep learning, introduced by Abdul Mu'ti, the Minister of Basic and Secondary Education, who emphasizes the importance of shifting learning practices beyond memorization toward meaningful comprehension [2].

The rapid growth of digital technology has also influenced the practice of Islamic education. Access to information has become easier through digital platforms and Artificial Intelligence (AI), enabling students to obtain learning materials more quickly. However, this condition also creates challenges, as some students tend to depend directly on AI-generated answers without critically examining or validating the information they receive. As a result, students may

understand religious material only at a surface level. Therefore, teacher supervision remains important in guiding students to use technology wisely while encouraging reflection and deeper understanding of Islamic teachings. Previous research similarly found that the use of AI in religious learning at the senior high school level may reduce students' efforts to verify information independently, potentially affecting the depth of comprehension and the authority of religious knowledge [3].

In this context, religious education should not merely focus on transferring knowledge but also on strengthening values and shaping student behavior. Learning practices that focus excessively on memorization often prevent students from fully understanding and internalizing Islamic values in their daily lives. Consequently, learning activities should encourage reflection, interpretation of meaning, and practical application of religious teachings. Earlier studies highlighted the importance of implementing a deep learning-based model to strengthen students' understanding and internalization of Islamic values [4]. A previous study found that the use of deep learning in Islamic education could improve the effectiveness of the learning process, particularly in supporting students'

understanding of learning materials and the achievement of instructional objectives at Pringkuku State Vocational High School [5].

To address these challenges, deep learning emphasizes conceptual knowledge, reflective thinking, and the ability to relate learning experiences to everyday contexts. In the Indonesian educational setting, this approach incorporates mindful, meaningful, and enjoyable learning into a comprehensive educational framework [6]. Consequently, students are encouraged to develop an understanding of religious teachings and apply them to everyday life [7].

Evidence from prior studies indicates that this approach improves students' conceptual understanding, critical thinking skills, and participation in learning activities. This approach also supports the internalization of Islamic values through reflective and contextual learning activities. However, previous studies have generally discussed learning effectiveness and have not specifically examined deep learning in religious education in response to the demands of the digital era. Current learning practices are closely connected with AI use, students' digital learning experiences, and the various challenges faced in classroom implementation.

Therefore, this study aims to analyze the implementation of deep learning in Islamic education in the digital era. This implementation is reflected in classroom learning practices and students' learning experiences. This study was conducted in a 10th-grade class at Jumapolo State High School because this class actively integrates digital technology into its activities, allowing for a more in-depth exploration of deep learning practices in the digital era. The findings of this study are expected to contribute to the theoretical development of deep learning-based religious education and serve as a practical reference for teachers looking to enhance learning practices in the digital era.

II. RESEARCH METHDOS

This study uses a descriptive qualitative method to present information in narrative form and describe the meaning of various phenomena [8]. The study explores how deep learning is implemented in religious education in the digital era. The research subjects were Islamic Religious Education teachers and 10th-grade students at Jumapolo State High School. Data were gathered through in-depth interviews and a Google Forms questionnaire administered at the research site. The 10th-grade Islamic Religious Education teachers were the primary informants during the interview process, and the questionnaire was distributed to the students. Data analysis was carried out through the stages of data reduction, presentation, and drawing conclusions [9]. During the data reduction stage, relevant information was selected and simplified. Subsequently, the data were presented in narrative form to facilitate understanding. The final stage involved drawing conclusions based on the findings. To ensure the validity of the data, source and technique triangulation were employed by comparing the results of the interviews and the questionnaire to obtain a consistent and comprehensive understanding.

III. RESULT AND DISCUSSION

A. Implementation of the Deep Learning Approach in Islamic Religious Education in the Digital Age

Deep learning is a learning approach that emphasizes meaningful understanding and students' ability to apply knowledge in everyday life [10]. According to an interview with Mr. Rahmadi, a 10th-grade Islamic Religious Education teacher at Jumapolo State High School, he explained that this approach does not merely prioritize memorization but encourages students to actively understand and internalize Islamic values. Students are not positioned only as passive recipients of information. Instead, they are directly involved in discovering, analyzing, and connecting learning materials to real-life situations.

Efforts to realize this learning approach are inseparable from instructional planning tailored to students' characteristics, learning interests, environmental conditions, and available facilities. These adjustments are reflected in the development of instructional modules aimed at encouraging students to understand, apply, and reflect on the learning material. This planning shows that the learning process has been designed systematically to encourage analytical thinking and help students apply their knowledge to everyday challenges [11].

The learning process begins with an introductory phase through the posing of questions related to the material, to activate focus and readiness for learning. This reflects the presence of mindful learning, where students are consciously engaged in understanding the upcoming learning process [12]. Learning also takes place in a relaxed and conducive atmosphere, with the presentation of material occasionally interspersed with humor, thereby creating a more comfortable learning environment and encouraging student engagement. This situation demonstrates the presence of joyful learning and is capable of enhancing student motivation and engagement [13].

Additionally, memorization remains a foundational aspect of Islamic religious education, particularly in memorizing Quranic verses and hadiths. However, the process goes beyond mere memorization, encouraging students to understand the meaning and content of the material. This is evident in learning assessments such as daily quizzes, midterm exams, and final exams, where students are not only asked to write down the verses but also to explain their meaning and content. Thus, Islamic religious education emphasizes meaningful learning, enabling students to understand and relate the verses' content to the material being studied [14].

In practice, implementing deep learning in Islamic Religious Education employs contextual learning models, specifically Problem-Based Learning (PBL) and Project-Based Learning (PjBL). Through the PBL model, teachers address real-world issues occurring in society, such as those related to promiscuity and adultery. Students are then asked to investigate various cases, analyze the causes and impacts, and propose solutions from an Islamic perspective. The results of this analysis are subsequently presented to the class as a means for discussion and the exchange of ideas. Meanwhile, through PjBL, teachers ask students to conduct

simple research, such as a study on the practices of Islamic banking by utilizing various digital sources without the need for direct field observations. The results of these studies are then compiled into reports as a form of information processing and presentation. These two learning models demonstrate that students not only possess theoretical conceptual understanding but are also capable of critical and analytical thinking, as well as processing information independently and systematically [15].

Technological advancements, including AI, support learning activities by broadening access to information and resources. This helps students understand challenging material more independently and flexibly [16]. The use of this technology is a crucial component in supporting learning in a more adaptive and open digital era. The Merdeka Curriculum incorporates project-based learning and instructional media into Islamic Religious Education to promote active student participation [17].

Furthermore, learning activities are not solely directed toward cognitive development through PBL and PjBL but are also strengthened through religious and social activities at school. Congregational Zuhur prayer activities help students develop habits related to religious practice within the school environment. Quran recitation activities conducted during religious classes also strengthen students' understanding of Islamic values and their spiritual connection to the material being studied. In addition, social service activities carried out during certain situations, such as flood disasters, encourage students to apply Islamic values in social life through empathy and compassion toward others. These activities indicate that learning processes also support students' affective and psychomotor development [18].

Based on the interview findings, learning practices in the digital era have been directed toward students' active participation through various contextual and reflective strategies. Through these practices, students are encouraged to think critically, gain a deeper understanding of the material, and develop character in accordance with Islamic values in everyday life.

B. Students' Learning Experiences in Deep Learning-Based Islamic Religious Education

Students' learning experiences are a key indicator of the success of deep learning implementation. This approach emphasizes both learning outcomes and the processes students undergo during the learning process. Students engaged in deep learning tend to have a strong understanding, high motivation, and the ability to connect the material to real life [19].

A questionnaire was completed by 256 of the 342 Muslim 10th-grade students at Jumapolo State High School. The findings indicated that learning experiences in Islamic Religious Education were generally positive. Most students rated Islamic religious education as quite interesting, while others found it highly engaging. Students' interest in this subject reflects a positive learning experience. This finding aligns with the deep learning approach, which emphasizes the importance of meaningful learning experiences in the educational process [20].

According to Mr. Rahmadi, Islamic religious education is designed to help students connect the material to real life through analysis and reflection. This indicates that the instruction is contextual. Support for this finding is evident in students' experiences of perceiving the relevance of the material to their daily lives, which aids in understanding the lessons. Consequently, students are able to directly link learning concepts to real-life situations [21].

Students' involvement in discussions, problem-solving, and projects indicates that each student has a distinct learning experience. This suggests that participation in active learning is not yet uniform, as it is influenced by each student's level of engagement. Earlier studies have reported similar results, indicating that differences in student engagement are associated with active participation and individual readiness during the learning process [5].

In terms of understanding, students felt that Islamic religious education helped them understand Islamic values and relate them to real life. Additionally, the learning process encouraged students to actively engage with the material and connect it to their daily experiences, enabling them to grow alongside the classroom learning process.

Regarding independent learning, students tend to attempt to understand the material on their own before utilizing technology as a learning aid. This attitude indicates a strong sense of self-directed learning and the ability to manage the learning process independently. This finding aligns with metacognitive concepts, which emphasize the importance of students' awareness of their own learning processes, including the ability to independently manage learning strategies [22].

The increasing use of technology, particularly AI, has also become part of students' learning experiences using a variety of platforms such as ChatGPT, Gemini, Blackbox AI, and Dola, which are generally used to help understand lesson material, although some students also use them to find answers to assignments or to seek ideas or examples. The presence of AI is considered quite helpful in the learning process because it makes it easier for students to obtain additional explanations according to their needs.

In addition, students also demonstrated a critical approach to using AI by not simply accepting information at face value, but rather comparing it with other sources and verifying it, particularly when it comes to religious material. This approach reflects a cautious approach to processing information to ensure the accuracy of the material used in the learning process. This aligns with Mr. Rahmadi's statement that information from AI must first be reviewed and clarified, and should not be relied upon as the sole source of learning. Therefore, students are still guided to utilize primary sources such as the Qur'an, the Sunnah, textbooks, explanations from teachers, and to develop learning literacy through reading and the use of the library. Thus, AI functions as a tool to assist in the information-seeking process, not as the primary source of learning.

Overall, it can be understood that deep learning-based Islamic religious education in 10th grade shows a positive trend in supporting students' interest, engagement, and understanding, although the level of participation in active

learning still varies among individuals. Additionally, this approach also fosters students' independent learning in understanding the material. The use of AI technology, which is part of the learning activities and serves as a means of obtaining additional information, must be accompanied by a critical attitude in verifying other sources. This situation highlights the importance of teachers' guidance to ensure technology use remains focused and does not replace established primary learning resources.

C. Challenges and Solutions in Deep Learning-Based Islamic Religious Education

In the digital era, applying deep learning principles to Islamic religious education fosters active participation and independent learning. This approach helps students achieve a comprehensive understanding of the subject matter by providing diverse educational resources. One form of technological advancement being utilized in the digital age is AI as a learning support tool.

Mr. Rahmadi explained that the increasing use of AI in this digital age can help students find additional materials and develop ideas more quickly and practically. The use of AI is considered capable of expanding access to information in the learning process [23].

However, in practice, several challenges arise in the use of this technology. He explained that one of the main challenges is the tendency of students to obtain instant answers without going through the process of reading and deeply understanding learning resources. This tendency has the potential to reduce students' interest in literacy, particularly in reading books as the primary source of learning. This finding aligns with research stating that the use of AI in learning can lead to excessive dependence on technology, thereby impacting the decline in students' critical thinking skills, independent learning, and reading motivation [3]. Additionally, the ease of accessing information through AI also makes students less inclined to actively explore other learning resources on their own.

Beyond the issue of dependency, another challenge that arises concerns the validity and accuracy of religious content generated by AI. In the context of Islamic Religious Education, unverified information has the potential to lead to misunderstandings of religious teachings. Research indicates that integrating AI into Islamic religious education raises concerns about ethical and content validity, requiring teacher oversight and information curation to ensure alignment with Islamic values [24].

Therefore, solutions are needed to address these various challenges. Teachers play a crucial role in guiding AI usage to prevent misuse and ensure it continues to support the learning process optimally. In this regard, Mr. Rahmadi explains that one of the efforts being made is to encourage students to continue reading books, compare information from various sources, and not rely entirely on AI to complete assignments. These efforts are important to ensure that the use of digital technology in learning remains focused and is able to optimally support students' independent learning [25].

Thus, AI in Islamic religious education can continue to provide optimal benefits if balanced with literacy enhancement, teacher supervision, and wise and purposeful

use. Instead of replacing learning activities, AI functions as a supportive medium that enhances students' deeper understanding.

IV. CONCLUSIONS

The research findings show that applying deep learning principles in Islamic religious education for 10th-grade students at Jumapolo State High School is effective in promoting learning that is not only focused on memorization but also on deep understanding, analytical skills, and the application of Islamic values in real life through contextual learning models such as Problem-Based Learning (PBL) and Project-Based Learning (PjBL). These findings also indicate that students' learning experiences tend to be positive, characterized by interest, understanding, and learning autonomy. Although active engagement still varies, and the use of technologies such as AI needs to be guided critically and not relied upon as the primary source of learning, teachers are therefore encouraged to continue optimizing active and contextual deep learning-based instruction. Students need to enhance their learning autonomy while prioritizing primary learning resources such as the Qur'an, the Sunnah, and textbooks. Additionally, schools are encouraged to provide guidance on technology use to ensure it remains aligned with the educational objectives of Islamic religious education. Future researchers may explore the application of deep learning in different contexts or employ alternative research approaches to yield more comprehensive results.

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