AI INTEGRATION IN ISLAMIC CHARACTER DEVELOPMENT: STUDY OF ELEMENTARY SCHOOL EDUCATION MANAGEMENT IN INDONESIA-TÜRKIYE

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Abstract

This research aims to analyze and compare the application of artificial intelligence (AI) in developing Islamic character in elementary schools in Indonesia and Turkey. Using a qualitative approach and case study methods, this research collected data through in-depth interviews, observations and document analysis in several elementary schools in both countries. The research results show that the integration of AI in educational management has made a significant contribution to increasing the effectiveness of character development based on Islamic values. In Indonesia, the application of AI is more focused on curriculum development and monitoring student behavior, while in Turkey, AI is used to support teacher-student interactions and personalize learning. In conclusion, although there are differences in the approach and implementation of AI, both countries have succeeded in utilizing this technology to strengthen Islamic character education, which ultimately has a positive impact on the formation of student behavior and values. This research recommends increasing collaboration between countries in developing AI-based educational technology for more effective development of Islamic character.

Keywords: *Artificial Intelligence, Islamic Character Development, Education Management, Elementary School, Indonesia- Türkiye.*

INTRODUCTION

In the increasingly rapidly developing digital era, artificial intelligence (AI) technology has become an integral part of various sectors, including education (Smith, R., & O'Malley, P. 2021; Rahman, F., & Aini, L., 2023; Al-Mutairi, A. 2023). The use of AI in education is not only limited to technical and administrative aspects, but also to efforts to improve the quality of learning and develop student character. One of the biggest challenges in the world of education today is how this technology can be utilized to develop character based on Islamic values among students, especially at the elementary school (SD) level. Islamic character education is very important in forming a generation that is not only intellectually intelligent but also has noble character.

Previous research has shown that the integration of AI in education can improve the effectiveness of the learning process and school management. For example, research conducted by B. Eynon and L. Malmberg (2020) shows that the use of AI in education can provide more personalized teaching and support the unique needs of each student. In addition, AI also plays a role in monitoring and evaluating student behavior in real-time, which can help teachers provide timely interventions to support positive character development. However, how AI can be integrated effectively in the context of Islamic education to develop Islamic character still requires further exploration.

Indonesia and Turkey, as countries with a majority Muslim population, have special attention to the development of Islamic character in their schools (Yusof, M., & Wahid, R., 2022; Abdurrahman, M., 2023). In Indonesia, character education based on Islamic values has become an important part of the national education curriculum, as regulated in Minister of Education and Culture Regulation no. 20 of 2018 concerning Strengthening Character Education (PPK). On the other hand, Turkey has also developed educational programs that integrate Islamic values into the national curriculum, with a focus on forming students' morals and behavior.

Even though the two countries have similarities in the goals of Islamic character education, the application of AI technology to support these goals is still relatively new and has different approaches. In Indonesia, research conducted by Hidayatullah (2021) shows that AI has begun to be used in developing Islamic-based learning content and in monitoring student behavior through AI-based applications. Meanwhile, in Turkey, AI is more widely used to personalize learning and manage interactions between teachers and students, as revealed in research by Kara (2022).

With this background, this research aims to analyze and compare the application of AI in developing Islamic character in elementary schools in Indonesia and Turkey. This research uses a qualitative approach with a case study method, where data is collected through in-depth interviews, observations and document analysis in several elementary schools in both countries. Thus, this research will not only provide an overview of how AI can be integrated in the context of Islamic education, but also how this technology can be adapted to suit different cultural contexts and local values.

Furthermore, this research will explore the challenges and opportunities faced by educators in implementing AI to support the development of Islamic character in elementary schools. These challenges include limited technological infrastructure, readiness of teaching staff, and student and parent acceptance of the use of AI technology in character education. On the other hand, opportunities that can result from this research include increasing teaching effectiveness, better personalization of learning, and the development of more efficient school management systems.

Apart from that, it is also hoped that this research can contribute to the development of better education policies, especially in the context of Islamic education in both countries. By comparing best practices in Indonesia and Turkey, this research can provide insight into effective strategies for integrating AI in Islamic character development that can be widely implemented in Muslim primary schools in various countries.

In a global context, the results of this research can also provide a broader understanding of how AI technology can be used to support character education in general, which is not only limited to Islamic education. Therefore, it is hoped that this research can be an important contribution to academic literature on the integration of technology in character education as well as the development of holistic and sustainable educational models.

Thus, this research is not only relevant for educational practitioners and policy makers in Indonesia and Turkey, but also for academics and researchers interested in character development and the integration of technology in education. It is hoped that the results of this research can be a reference for developing better education policies in the future, as well as providing guidance for educators in implementing AI to support the development of Islamic character in elementary schools.

RESEARCH METHODOLOGY

This research uses a qualitative approach with a case study method to analyze and compare the application of artificial intelligence (AI) in developing Islamic character in elementary schools (SD) in Indonesia and Turkey. A qualitative approach was chosen because it allows researchers to understand phenomena in depth in a specific context, which is very relevant to the objectives of this research. As explained by Creswell, J. W. (2014), qualitative research provides flexibility in exploring the experiences of research subjects and understanding the meaning they attribute to certain phenomena.

The main data in this research was collected through in-depth interviews with educators, school principals, and educational technology experts involved in AI integration in elementary schools. In-depth interviews are an effective data collection technique for gaining rich and in-depth insight into the perceptions, experiences and challenges faced by research subjects. Patton (2015) emphasized that in-depth interviews allow researchers to explore information that is more specific and relevant to the research context.

Apart from interviews, this research also uses participatory observation techniques to directly monitor how AI is applied in learning and character development activities in elementary schools. Observations were carried out in several elementary schools in Indonesia and Turkey, with a focus on interactions between students, teachers and the AI technology used. According to Merriam and Tisdell (2016), participant observation provides researchers with the opportunity to obtain more accurate contextual data, which may not be revealed through interviews alone.

Document analysis is also an important part of this research method. The documents analyzed include curricula, education policies, AI implementation reports, as well as guidelines for the use of technology in teaching. Document analysis helps complement the data obtained from interviews and observations, and provides a more comprehensive picture of how AI is being integrated in the context of Islamic education in both countries. Bowen (2009) states that document analysis is an essential method in qualitative research to understand the context of existing policies and practices.

Data obtained through interviews, observation and document analysis were then analyzed using thematic analysis techniques. This technique allows researchers to identify thematic patterns that emerge from the data, as well as provide in-depth interpretations regarding how AI contributes to the development of Islamic character in the elementary schools studied. Braun and Clarke (2006) emphasize that thematic analysis is a flexible and useful method in qualitative research, especially for studies that explore complex aspects of social phenomena.

RESULTS AND DISCUSSION

The results of this research show that the integration of artificial intelligence (AI) in educational management in elementary schools (SD) in Indonesia and Turkey makes a significant contribution to the development of Islamic character among students. This research found differences in the focus of AI implementation in the two countries, with Indonesia placing more emphasis on curriculum development and monitoring student behavior, while Turkey focuses more on supporting interactions between teachers and students and personalizing learning. These findings are consistent with previous studies which suggest that AI technology can be adapted to local needs to achieve optimal educational outcomes (Smith & Anderson, 2020).

In Indonesia, the application of AI in Islamic character education is mainly seen in the development of a technology-based curriculum that is able to convey Islamic values effectively. The AI system used is able to analyze student data and recommend learning materials that suit their level of understanding and needs. This is in line with the findings of Hidayatullah (2021), who stated that AI can increase the effectiveness of delivering Islamic education material through personalizing content to suit individual student needs.

Apart from that, AI in Indonesia also plays an important role in monitoring student behavior. AI-based applications are used to track students' activities, including their social and religious behavior, both inside and outside the classroom. This data is then used by teachers to provide specific and timely feedback, aimed at strengthening Islamic values in students' daily lives. Rahman's (2022) research also reveals that AI-based behavior monitoring can help educators provide more targeted and effective interventions in shaping student character.

In Türkiye, the application of AI focuses more on supporting interactions between teachers and students and personalizing learning. AI technology is used to assist teachers in adapting their teaching methods to the unique needs of each student, as well as to facilitate more interactive and engaged learning. This reflects the findings of Kara (2022), who showed that AI can improve the quality of teacher-student interactions by providing tools that enable personalized learning and more responsive feedback.

Furthermore, AI in Türkiye also plays an important role in personalizing learning based on students' needs and level of understanding. This technology allows students to learn at their own pace, with personalized guidance from teachers. This not only improves learning outcomes, but also strengthens Islamic values by providing examples that are relevant and appropriate to their context. Research by Eynon and Malmberg (2020) also shows that AI-based personalized learning can increase student engagement and help them understand and internalize the values taught.

It is important to note that although there are differences in focus between Indonesia and Turkey, both have succeeded in utilizing AI technology to support their educational goals, especially in developing Islamic character. In Indonesia, a more structured approach to curriculum development and behavior monitoring has shown positive results in the formation of Islamic character. In contrast, in Turkey, the use of AI to support teacher-student interactions and personalize learning has had a significant impact on the understanding and application of Islamic values among students.

However, this research also reveals several challenges in implementing AI in both countries. In Indonesia, one of the main challenges is the readiness of technology infrastructure in primary schools, especially in less developed areas. Although AI has great potential to improve the quality of education, its successful implementation is highly dependent on adequate access to technology and training for teaching staff. According to research by Al-Mutairi (2023), inadequate infrastructure can be a significant obstacle to the effective implementation of educational technology.

In Türkiye, the main challenge is resistance to change from some educators who feel uncomfortable with new technology. Although AI has proven effective in supporting teacher-student interactions and personalization of learning, the success of its implementation depends largely on teachers' readiness and willingness to adopt this technology. Research by Yusof and Wahid (2022) reveals that resistance to technological change is often caused by a lack of adequate training and support for teachers.

In addition, the results of this research also show that collaboration between educators, technology developers, and policy makers is very important to ensure that AI can be used effectively in Islamic character education. In Indonesia, this collaboration has enabled the development of an AI-based curriculum that is appropriate to the local cultural and religious context. In Turkey, this collaboration has resulted in training programs that help teachers integrate AI technology into their teaching methods. This is in line with the findings of Smith and O'Malley (2021), who emphasize the importance of cross-sector collaboration in the development and implementation of educational technology.

Furthermore, this research found that the successful implementation of AI in Islamic character education also depends on the involvement of parents and the community. In Indonesia, for example, parental involvement in monitoring student behavior through AI-based applications has helped strengthen the Islamic values taught in schools. In Türkiye, community support in the application of educational technology also plays an important role in the success of this program. This is in line with research by Kara (2022), which shows that parental and community involvement is a key factor in the success of educational programs that use technology.

In addition, this research shows that AI not only increases the effectiveness of Islamic character education, but also contributes to improving the efficiency of educational management in elementary schools. In Indonesia, AI is used to automate many administrative tasks, such as managing student data and reporting, which allows teachers and school principals to focus more on aspects of education and character development. In Turkey, AI is also used to manage interactions and communications between students, teachers and parents, which increases transparency and accountability in education management. This is supported by the findings of Rahman and Aini (2023), who show that AI can reduce administrative workload and increase operational efficiency in educational institutions.

In addition, the results of this research show that AI can help identify students who need special attention in developing Islamic character. In Indonesia, for example, AI is used to monitor student behavior in real-time and identify behavioral patterns that may require intervention. In Turkey, this technology is used to personalize interventions based on analysis of student data, allowing teachers to provide more targeted support. Research by Smith (2021) also found that AI can be used to detect students' special needs more quickly and accurately, allowing for earlier and more effective intervention.

However, despite the many benefits resulting from the integration of AI in Islamic character education, this research also found that there are risks that need to be considered. In Indonesia, for example, there are concerns about the privacy of student data collected and analyzed by AI systems. In Turkey, there are concerns that too dominant use of AI could reduce human interaction in the learning process, which could have a negative impact on the development of Islamic values that emphasize relationships between individuals. Research by Eynon and Malmberg (2020) also reminds us of the importance of maintaining a balance between the use of technology and human interaction in education.

In a global context, the results of this research show that AI has great potential to support Islamic character education in countries with a majority Muslim population. Although there are differences in context and approach between Indonesia and Turkey, both demonstrate that this technology can be adapted to meet local needs and support specific educational goals. Research by Abdurrahman (2023) also highlights the potential of AI in supporting character education in various cultural and religious contexts, noting that its implementation must be adapted to local values and norms.

This research shows that the integration of AI in educational management in elementary schools in Indonesia and Turkey has made a significant contribution to the development of Islamic character. Although there are challenges in implementation, the results show that AI can be an effective tool in supporting character education, as long as it is implemented taking into account the local context and supported by strong collaboration between various stakeholders. This research also emphasizes the importance of developing educational policies that support the responsible and sustainable use of technology in Islamic character education.

CONCLUSION

This research shows that although there are differences in the approach and implementation of AI in Indonesia and Turkey, both countries have succeeded in utilizing this technology to strengthen Islamic character education. In Indonesia, AI is more focused on curriculum development and monitoring student behavior, while in Turkey, this technology is used to support teacher-student interactions and personalize learning. These differences reflect the unique educational contexts in each country, but both have demonstrated that AI can be an effective tool in supporting educational goals based on Islamic values.

The positive impact of implementing AI can be seen in the formation of Islamic behavior and values of students in both countries. AI enables more focused and personalized teaching and character development, which ultimately strengthens the understanding and internalization of Islamic values in students' daily lives. This technology not only increases the effectiveness of learning, but also enables more timely and specific interventions in shaping Islamic character, both through monitoring behavior in Indonesia and through personalizing learning in Turkey.

Based on these findings, the research recommends increasing collaboration between countries in developing AI-based educational technology for more effective development of Islamic character. By sharing knowledge and experience, countries can learn from each other's approaches and adopt best practices in implementing AI in the education sector. This collaboration will not only strengthen Islamic character education at the national level, but also has the potential to contribute to global developments in the responsible and ethical use of AI technology in the field of education.

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