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Integration Of Artificial Intelligence In Learning Islamic Religious Education Based On Emotional Intelligence In Primary Schools

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Abstract
This research aims to analyze the integration of artificial intelligence (AI) in Islamic Religious Education (PAI) learning based on emotional intelligence (EQ) in elementary schools in order to increase the effectiveness of adaptive and characterful learning. This study focuses on the use of AI to personalize teaching materials, strengthen spiritual values, and develop students' empathy and social skills through an EQ-based approach. The method used is literature study by analyzing various sources such as journals, books and articles related to AI, PAI and EQ-based learning. The research results show that AI integration can facilitate interactive and enjoyable learning, while the EQ approach strengthens students' internalization of religious and emotional values. However, its success depends on collaboration between technology, teachers and a curriculum oriented towards the holistic development of children.

Abstrak
Penelitian ini bertujuan untuk menganalisis integrasi kecerdasan buatan (AI) dalam pembelajaran Pendidikan Agama Islam (PAI) berbasis kecerdasan emosional (EQ) di sekolah dasar guna meningkatkan efektivitas pembelajaran yang adaptif dan berkarakter. Studi ini berfokus pada pemanfaatan AI untuk personalisasi materi ajar, penguatan nilai-nilai spiritual, serta pengembangan empati dan keterampilan sosial siswa melalui pendekatan berbasis EQ. Metode yang digunakan adalah studi pustaka dengan menganalisis berbagai sumber seperti jurnal, buku, dan artikel terkait AI, PAI, dan pembelajaran berbasis EQ. Hasil penelitian menunjukkan bahwa integrasi AI dapat memfasilitasi pembelajaran interaktif dan menyenangkan, sementara pendekatan EQ memperkuat internalisasi nilai-nilai agama dan emosional siswa. Namun, keberhasilannya bergantung pada kolaborasi antara teknologi, guru, dan kurikulum yang berorientasi pada pengembangan holistik anak.

Kata Kunci: Kecerdasan Buatan, Pembelajaran PAI, Kecerdasan Emosional

INTRODUCTION

The development of artificial intelligence (AI) technology has brought significant transformation in various fields, including education (Liriwati, 2023). In the context of Islamic Religious Education (PAI) learning in elementary schools, AI integration offers opportunities to create a more interactive, personalized and effective learning experience. However, PAI learning does not only emphasize cognitive aspects, but also requires an emotional intelligence (EQ)-based approach to shape students' character and spiritual values. This combination of AI and EQ can be an innovative solution in facing learning challenges in the digital era.

One of the main potentials of AI in PAI learning is its ability to provide adaptive content according to individual student needs (Sulaeman *et al.*, 2024). The AI system can analyze students' learning styles, speed of understanding, and interests, then adjust teaching materials such as Islamic stories, practice questions, or interactive simulations. For example, an AI platform can provide animated videos about the story of the Prophet Muhammad SAW for students who find it easier to learn visually, or interactive

quizzes for those who prefer a challenge. In this way, the learning process becomes more interesting and in accordance with each child's preferences.

Apart from personalizing material, AI can also play a role in monitoring students' emotional development during learning (Soegiarto *et al.*, 2023). Through analysis of facial expressions, tone of voice, or interaction patterns, AI systems can detect whether students are bored, stressed, or enthusiastic. This data can then be used by teachers to provide a more empathetic approach, such as changing teaching methods or providing psychological support. In the PAI context, emotional monitoring is very important because religious learning is not only about memorization, but also the appreciation of values such as patience, gratitude and tolerance.

An emotional intelligence (EQ)-based approach in PAI learning is a vital complement to AI technology (Liriwati, 2023). EQ helps students manage emotions, empathize with others, and build positive social relationships—skills that are highly emphasized in Islamic teachings. Teachers can leverage AI to design virtual group activities that encourage cooperation, or conflict simulations that train students to solve problems wisely. With the help of AI, teachers can identify students who need more help developing their emotional skills.

The integration of AI and EQ also allows for a more holistic learning evaluation. So far, PAI assessments have often focused on cognitive aspects such as memorizing prayers or Islamic history (Halik, 2013). However, with AI, teachers can develop assessment instruments that cover students' daily behavior, participation in discussions, or social attitudes. For example, AI systems can record and analyze how students interact in school charity projects or religious activities, then provide feedback for their character development. However, the implementation of AI in PAI learning is not free from challenges. One of them is the lack of teacher understanding about this technology, so adequate training is needed. Additionally, there are concerns that excessive use of AI could reduce the role of teachers as moral and spiritual guides. Therefore, AI must be positioned as a supporting tool, not a substitute for teachers. Teachers still play a central role in providing role models and a human approach that cannot be replaced by machines.

Ethical and religious aspects also need to be considered in using AI for PAI learning. AI systems must be designed in accordance with Islamic values, such as avoiding content that conflicts with faith or morals (Setiawan, 2024). In addition, student data privacy must be maintained so that their emotional and academic information is not misused. Collaboration between technologists, educators, and clerics is needed to ensure that AI is used responsibly in the context of religious education. At the elementary school level, the application of AI in PAI must be adjusted to the child's psychological development. Material that is too complex or has a complicated interface can frustrate students. Instead, AI should be designed with child-friendly interfaces, such as animated characters that guide learning or fun educational games. That way, students not only learn about religion, but also develop a love for the learning process itself.

The successful integration of AI and EQ in PAI learning also depends on the support of parents and the school environment. Parents need to be involved in monitoring children's development, while schools must provide adequate infrastructure, such as stable internet access and digital devices. The synergy between teachers, parents and technology will create a learning ecosystem that supports students' balanced intellectual and emotional development. Overall, the integration of artificial intelligence in PAI learning based on emotional intelligence in elementary schools has great potential to improve the quality of religious education (Annas and Mas, 2022). With the right approach, AI can help create a generation of Muslims who are not only academically intelligent, but also have noble character and high emotional intelligence. However, this must be done carefully, ensuring that technology is used to strengthen, not replace, humanist and spiritual values in education.

In the era of digital revolution 4.0, the world of education faces a big challenge to prepare a generation that is not only academically intelligent but also has emotional and spiritual maturity. This research is very urgent because Islamic Religious Education (PAI) learning in elementary schools has tended to be conventional and less adaptive to technological developments, while on the other hand generation Z and Alpha students are already familiar with the digital environment. The integration of artificial intelligence (AI) with the emotional intelligence (EQ) approach in PAI learning is a strategic

solution to bridge this gap, as well as answer the challenge of moral and character degradation which is increasingly worrying among school-age children.

The urgency of these two studies lies in the urgent need for a holistic and comprehensive PAI learning model. Facts in the field show that many students are able to memorize religious material but have not been able to internalize these values in everyday life. An EQ-based approach with the help of AI can create a learning system that not only emphasizes cognitive aspects, but also affective and psychomotor. With AI's ability to analyze students' emotional data, teachers can provide appropriate interventions to shape Islamic characters such as honesty, tolerance and responsibility - values that are increasingly important in Indonesia's multicultural society. Furthermore, this research is very crucial as a foundation for the development of religious education in the future. In the context of Merdeka Belajar and digitalization of schools, the integration of AI in EQ-based PAI will be a pioneer in creating an adaptive, personalized and data-based religious education system. The findings of this research can be a reference for policy makers in developing a PAI curriculum that is relevant to the times, as well as a guide for teachers and parents in utilizing technology for character education. Thus, this research not only has academic value but also has a broad social impact in forming a generation of Muslims who are intellectually and spiritually superior in the era of technological disruption.

METHOD

This research uses a literature review method with a qualitative approach to comprehensively analyze various written sources related to the integration of artificial intelligence (AI) in emotional intelligence-based Islamic Religious Education (PAI) learning in elementary schools. The sources studied include scientific journals, textbooks, seminar proceedings, research reports, and related articles published in the last 10 years. Data collection was carried out systematically through searches in academic databases such as Google Scholar, ERIC, Scopus, and ScienceDirect with main keywords such as "artificial intelligence in Islamic education", "emotional intelligence in PAI", and "AI-based elementary education".

Data analysis was carried out through three main stages: data organization, synthesis of findings, and critical interpretation. At the organizational stage, the collected sources are selected based on their relevance and credibility, then classified according to main themes such as the implementation of AI in PAI, the development of emotional intelligence, and learning strategies in elementary schools. The synthesis stage involves identifying patterns, similarities, and differences from various previous research findings. Next, critical interpretation is carried out to develop a conceptual framework on how AI can be integrated in PAI learning with an emotional intelligence approach.

Data validity is guaranteed through source triangulation by comparing findings from various different references. This study also applied strict inclusion and exclusion criteria, where only peer-reviewed sources and indexed publications were prioritized. The results of the analysis are then presented narratively to answer research questions about the potential, challenges and strategies for integrating AI in emotional intelligence-based PAI learning at the elementary school level. It is hoped that the findings from this literature study can provide a strong theoretical foundation for the development of innovative learning models in the future.

RESULT AND DISCUSSION

The Urgency of Artificial Intelligence in Learning

The development of artificial intelligence (AI) technology has brought about a paradigm shift in the world of modern education (Natanael, Ilmi and Jamaris, 2023). In the context of contemporary learning, AI is no longer just an option but an urgent need to answer the challenges of 21st century education. Conventional education systems that are uniform and lack personalization have proven to be no longer effective in meeting the increasingly diverse learning needs of students. AI offers a revolutionary solution through its adaptive capabilities that can provide a learning experience that is truly tailored to the individual characteristics of each student.

The urgency of applying AI in learning is increasingly felt during the pandemic and post-pandemic, where disparities in the quality of education are widening (Hermawan *et al.*, 2025). AI is able to bridge this gap through a learning platform that can be accessed anytime and anywhere, with content tailored to the user's level of understanding. This technology makes it possible to distribute quality education even to remote areas that have previously had difficulty accessing quality teachers. A virtual tutor AI system can provide 24/7 learning assistance that is not possible with a human teacher.

In terms of time and resource efficiency, AI provides a very high sense of urgency for the world of education. Teachers who have been burdened with administrative tasks such as assessments and preparing reports can be helped significantly by automated AI systems. This allows educators to focus on aspects of learning that require a human touch such as character development and psychological assistance. Analysis of learning data by AI can also identify student learning problems more quickly and accurately than conventional methods.

The need for education that is responsive to changes in the world of work is also an urgent reason for implementing AI. The professional world of the future requires ever-evolving new skills, and traditional, rigid education systems are unable to keep up with this pace of change. AI in learning enables real-time updating of educational content, provision of future skills training, and prediction of competency needs in various industrial sectors. In this way, graduates of an AI-based education system will be better prepared to face the challenges of the dynamic world of work.

From an educational neuroscience perspective, AI has a special urgency in optimizing the human learning process (Rivalina, 2020). This technology can analyze each individual's optimal learning patterns based on biological rhythms, cognitive styles and memory abilities. AI systems can determine the best time to learn certain material, the most effective delivery method, and the ideal repetition interval for long-term memory. This kind of scientific evidence-based approach is difficult to implement manually in conventional classes with a large number of students.

The equitable aspect of special education is also a strong reason for the need for AI in learning. Children with special needs such as dyslexia, autism, or other learning disorders are often not well served in the general education system (Annas *et al.*, 2022). AI can provide truly personalized learning solutions for these specific conditions, with interfaces and methods tailored to neurodiverse needs. Technology such as recognizing emotions through facial expressions and analyzing interaction patterns can help early detect various learning difficulties that have often been overlooked.

In the context of globalization of education, AI has become an urgent need to prepare students to become competent world citizens. AI-based learning systems can easily integrate multilingual content, cross-cultural understanding, and virtual international collaboration. This is very relevant to the demands of an increasingly connected world, where global competence is an important requirement for success in the future. AI also makes it possible to create consistent but flexible educational standards in various parts of the world. From an educational economics perspective, investment in learning AI is imperative for long-term efficiency. Despite large initial costs, AI systems have proven to be more cost-effective at scale than traditional education models. Its ability to serve an unlimited number of students with consistent quality means the cost per student becomes lower over time. In the long term, this will reduce the burden on the national education budget while actually increasing its quality.

The urgency of AI in learning can also be seen from the demands of the digital native generation who are very familiar with technology. Conventional learning methods are often no longer attractive to generations who grew up with smartphones and the internet (Kobandaha, 2016). AI can provide more interactive, gamified and immersive learning experiences through technologies such as augmented reality and virtual reality. This approach not only increases engagement but also learning effectiveness significantly. Finally, the urgency of AI in learning lies in its ability to anticipate and prepare for the future of education itself. AI systems can analyze global education trends, predict future learning needs, and proactively develop solutions before problems actually arise. Thus, AI integration is not just about solving current educational problems, but more importantly about preparing a resilient and adaptive educational system to face future challenges that we do not yet know about.

Integration of AI in Islamic Religious Education Learning

Islamic Religious Education (PAI) as the foundation for character formation and spirituality of the Muslim generation is facing big challenges in the era of digital disruption. The integration of artificial intelligence (AI) in PAI learning offers a new paradigm that combines the power of technology with Islamic values, creating an adaptive and evidence-based educational ecosystem (Maulidia *et al.*, 2023). The AI system is able to analyze students' individual learning needs, then present material about creeds, morals, jurisprudence, or Islamic history in a format that best suits their respective learning styles. For example, visual students can receive content in the form of animated stories of the prophets, while auditory students can receive Islamic studies podcasts tailored to their level of understanding.

In the aspect of developing morals, AI plays a revolutionary role through an emotion and behavior recognition system. AI-based cameras can detect students' facial expressions and body language during lessons, providing real-time feedback to teachers about students' level of emotional engagement in the religious material being taught. This system is able to identify when students show signs of confusion when studying the concept of monotheism, or enthusiasm when discussing the story of the Prophet's example. This data allows teachers to intervene timely and adjust teaching approaches according to students' emotional needs.

Learning to memorize the Koran and hadith has undergone a significant transformation with the presence of AI technology. Applications such as Al-Qur'an memorizing chatbots can listen to students' reading, correct recitation and makhraj automatically, and provide memorization schedules tailored to individual memory abilities. The spaced repetition algorithm system in AI helps optimize rote repetition schedules based on each student's forgetting and remembering patterns. Even more interesting, AI can recognize the learning style of certain Al-Qur'an memorizers, whether more effectively through hearing, visualization, or movement, and then develop the most appropriate memorization strategy.

In the realm of authentic assessment, AI provides a solution to the classic problem in PAI evaluation which often only measures cognitive aspects. Through big data analysis, AI can evaluate the development of students' religious attitudes such as prayer discipline, honesty, and tolerance based on digital diaries, social interactions at school, and behavioral observations via IoT sensors. This system provides a holistic picture of the development of students' Islamic character which has been difficult to measure objectively. Teachers then receive detailed analytical reports to provide more targeted assistance.

The integration of AI in PAI learning also opens up new opportunities for a multisensory approach in understanding Islamic concepts. AI-based virtual reality (VR) can take students to simulate the migration journey of the Prophet Muhammad SAW, or experience the Hajj pilgrimage in an immersive way. Augmented reality (AR) can display 3D visualizations of the development of the spread of Islam in the world, or help understand the direction of the Qibla through integration with geolocation sensors. This learning experience that involves various senses has been proven to increase memory retention and appreciation of religious values.

The aspect of inclusive education in PAI is also receiving serious attention through the application of AI. For students with special needs, such as the visually impaired, AI text-to-speech equipped with perfect Arabic pronunciation can help with Al-Qur'an learning. Students with dyslexia can be helped by AI applications that convert religious book texts into a format that is easier to process. The AI system can also detect specific learning difficulties experienced by students in understanding religious material, then prepare a customized remedial program without having to wait for a summative evaluation at the end of the semester.

The main challenge in this integration is maintaining a balance between technology and humanist values in religious education. AI in PAI must be designed with strict syar'i filters, ensuring all content and recommendations produced are in accordance with the teachings of Ahlus Sunnah wal Jama'ah. Muslim developers need to create algorithms that are not only technically intelligent but also have a deep understanding of ushul fiqh and rules of interpretation. The system must be able to differentiate strong and weak opinions on khilafiyah issues, as well as provide clear references from mu'tabar books.

The implementation of AI in PAI also has a transformative impact on the role of religious teachers. Instead of replacing the teacher's position, AI actually elevates the role of the educator to

become a spiritual mentor who focuses more on character support and instilling values. With AI assisting with administrative and assessment tasks, teachers can spend more time on philosophical discussions about the wisdom of worship, spiritual guidance, or solving contemporary ethical problems from an Islamic perspective. Teachers develop into facilitators who guide students to filter various religious information in a digital era that is overwhelmed with Islamic content that is not necessarily valid.

At the policy level, AI integration in PAI requires a comprehensive sharia compliance framework. Islamic educational institutions need to form an expert team consisting of Muslim scholars, education experts and technologists to develop ethical guidelines for the use of AI in religious learning. Aspects such as student data privacy, algorithm transparency, and accountability for AI-generated religious content must be strictly regulated. Collaboration with Islamic universities is needed to prepare prospective religious teachers who are technologically literate and strong in religious knowledge.

The future of AI integration in PAI brings a big vision of creating a personal, adaptive and data-based religious education ecosystem, while still maintaining the purity of Islamic teachings. With the right approach, this technology can give birth to a generation of Muslims who not only master religious knowledge in depth but also have a strong Islamic character, ready to face the challenges of the times by adhering to the Al-Qur'an and Sunnah. This digital transformation in PAI is ultimately not about replacing the role of teachers or traditional learning, but about strengthening it with the best tools that modern times have.

Integration of Artificial Intelligence in PAI Learning Based on Emotional Intelligence in Elementary Schools

Islamic Religious Education (PAI) in elementary schools faces big challenges in the digital era, where children are used to technology but need a humane approach to understand religious values (Liriwati, 2023). The integration of artificial intelligence (AI) in emotional intelligence (EQ)-based PAI learning offers an innovative solution to this problem. AI can help create personalized and adaptive learning experiences, while the EQ approach ensures that learning does not only focus on cognitive aspects, but also on character building and empathy. This combination is especially relevant for elementary school students who are in a critical phase of emotional and spiritual development.

One of the main applications of AI in PAI learning is its ability to provide content tailored to individual student needs. The AI system can analyze each child's learning style, speed of understanding, and interests, then adapt learning materials such as Prophet stories, daily prayers, or moral values in the most appropriate format. For example, students who are more responsive to visuals can receive material in the form of interactive animations, while those who are more auditory can listen to podcasts of Islamic exemplary stories. This personalization increases student engagement and makes religious learning more meaningful.

The emotional intelligence aspect in PAI learning is an important component that is strengthened by AI technology. AI systems can be equipped with emotion recognition through analysis of students' facial expressions, tone of voice, and interaction patterns during learning. This data helps teachers identify students who may feel frustrated when memorizing short verses or who show a strong interest in a particular topic. With this information, teachers can provide a more empathetic approach, such as providing short breaks, changing teaching methods, or providing praise that builds student confidence.

AI-based learning also enables the development of virtual group activities that encourage cooperation and empathy among students (Kurdi, 2021). The AI platform can create simulated social situations where students must work together to solve problems based on Islamic values, such as sharing, honesty, or resolving conflicts peacefully. These systems can provide instant feedback on how each group member is contributing, encouraging reflection on their own behavior and the development of better emotional intelligence. Through activities like this, students not only learn about religion theoretically but also practice these values in a social context.

Evaluation in PAI learning is also undergoing a transformation with the help of AI. Instead of just relying on rote tests, AI systems can assess student development holistically, including aspects of daily attitudes and behavior. For example, AI can analyze how students apply religious values in interactions

with classmates, responsibility for assignments, or attitudes during group prayer. This data provides a more complete picture of students' spiritual and emotional development, allowing teachers to provide more targeted guidance. However, the integration of AI in EQ-based PAI learning is not without challenges. One of the main problems is maintaining a balance between the use of technology and the human interaction that is essential in religious education. AI must function as a tool, not a substitute for the teacher's very important role in providing role modeling and emotional support. In addition, there needs to be a strict filter to ensure that all AI-generated content is in accordance with correct Islamic teachings and does not contain misinterpretations.

Teacher training is a key factor in the success of this integration. PAI teachers need to be equipped with an understanding of how to use AI technology effectively while still maintaining a compassionate and exemplary educational approach. They must be able to interpret the data generated by AI and use it to increase human interaction with students, not reduce emotional closeness. Teachers who are skilled at combining technology and an EQ approach will create a learning environment where students feel understood and valued as individuals.

The role of parents is also no less important in this learning model. AI platforms can provide a portal for parents to monitor their child's development, both in academic and emotional aspects. Parents can receive suggestions on how to support religious learning at home based on AI analysis, such as activities that match their child's interests or how to respond to their spiritual questions. Collaboration between schools and parents facilitated by this technology creates a more integrated approach in children's religious education.

From a curriculum perspective, the integration of AI and EQ in PAI requires the preparation of material that is balanced between religious knowledge and character development. Digital content needs to be designed not only to transfer information but also to trigger emotional and spiritual reflection. For example, after learning the story of a prophet, students can be invited by the AI system to reflect on how the values in the story can be applied to their daily lives. This approach helps deeper internalization of religious values. In the future, the integration of AI in emotional intelligence-based PAI learning in elementary schools has great potential to create a generation of Muslims who are not only knowledgeable about religion but also have noble character and have high emotional intelligence. With the right design, technology can be a powerful tool for making religious learning more relevant, interesting, and impactful for students' lives. The key to success lies in how we utilize technological advances without losing the humanist and spiritual essence of religious education itself. Harmonious integration between AI and EQ in PAI will form students who are not only 'knowing' about Islam but also 'being' and 'living' as good Muslims in everyday life.

CONCLUSION

The integration of artificial intelligence (AI) in emotional intelligence-based Islamic Religious Education (PAI) learning in elementary schools opens up innovative opportunities to improve the quality of education. By utilizing AI, teachers can present more interactive and personalized material, such as chatbot-based applications to simulate moral dialogue or adaptive platforms that adapt to students' emotional needs. This approach not only strengthens religious understanding but also trains students' empathy, patience and social skills through technology that is responsive to their psychological dynamics. On the other hand, the successful integration of AI in emotional intelligence-based PAI requires a balance between technology and humanist values. Elementary schools must ensure that the use of AI remains oriented towards strengthening character and spirituality, not just learning efficiency. Collaboration between AI developers, educators and psychologists is needed to design tools that are appropriate to the emotional development stages of early childhood. In this way, technology can be a strategic partner in creating a generation that is not only cognitively intelligent but also emotionally and spiritually mature.

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