



Exploration of Teacher Perspectives on Artificial Intelligence among Ministries of Religion in East Java

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Abstracts

Artificial Intelligence has proven to bring changes in various aspects of life, including in the world of education. The Ministry of Religious Affairs in East Java as an institution that oversees religious education is predicted to be affected by AI advances. This article aims to explore madrasah teachers' perspectives on AI technology. This study used a qualitative approach with structured interviews. Data collection involved 50 in Kediri City. The results showed that teachers in the Ministry of Religious Affairs in East Java have diverse views towards AI technology. Some teachers positively welcomed this advancement as an opportunity to enrich the learning process and improve the efficiency of administrative work. However, some teachers view AI as a professional threat. Other findings show that teachers are not familiar with AI. In highlighting this, future research needs to find intervention strategies to improve AI usage skills that are relevant in optimizing educational functions.

Keyword: Artificial Intelligence; Teacher Perspective; Islamic Religious Education;

INTRODUCTION

Advances in Artificial Intelligence (AI) technology have changed the way we interact with the world in various aspects of life (Etscheid 2019; Holzinger et al. 2019; Karnouskos 2020; Knox 2020; Levy 2018; Reis, Santo, and Melão 2019; Wirtz, Weyerer, and Geyer 2019). Previous research points out that AI has been proven as a tool to improve efficiency, productivity, and service quality (Chiu and Chai 2020; Knox 2020; Langley 2019; Yang 2022). AI findings are becoming a predictor of progress in all fields, one of the sectors affected by AI advancements is education (Ouyang and Jiao 2021; Wang and Siau 2019).

The Ministry of Religious Affairs in East Java, as an institution that plays a role in managing religious education, is predicted to have begun to feel the impact of AI development. In this context, research exploring teachers' perspectives on AI among the Ministry of Religious Affairs in East Java is relevant and important (Hidayati and Diana 2021; Shodiq 2019). Teachers, as educational actors, have a key role in the educational process and character building of students. In addition, the main role of teachers is to convey knowledge to the younger generation (Kuswandi et al. 2022; Nafi'a, Kuswandi, and Wedi 2021). AI with all its sophistication has the potential to have both positive and negative impacts on teacher professionalism. With the existing challenges, it needs to be anticipated or supported by exploring how the development of AI in the madrasah teacher environment is described.

Based on existing research, exploring teachers' perspectives on AI technology among the Ministry of Religious Affairs in East Java is relevant and important (Ekasari et al. 2021; Zahra 2019). Teachers have a key role in the educational process and character building of students, as well as a role in conveying religious teachings to the younger generation. However, the adoption of AI technology within the Ministry of Religious Affairs may be faced with various challenges, such as concerns over the replacement of human jobs by technology (Bostrom et al. 2022; Huang, Saleh, and Liu 2021; Reyes et al. 2019) readiness in integrating AI technology in the religious curriculum (Ashraf 2022) and the socio-cultural impact of using AI technology in religious learning (Raquib et al. 2022).

To date, there has been limited research on teachers' views and perceptions of AI within the Ministry of Religious Affairs in East Java. However, understanding these views is important to identify potential benefits, challenges and opportunities that may arise with the adoption of AI technologies in learning and management processes in this environment. In addition, this research can also provide guidance for policy development focused on the sustainable and effective integration of AI within the Ministry of Religious Affairs.

Thus, this study will fill a knowledge gap by exploring teachers' perspectives on AI within the Ministry of Religious Affairs in East Java. It is hoped that the

results of this study can provide valuable insights into how teachers perceive and respond to AI technologies, and how these views can shape the direction of AI technology development that is more suitable and appropriate to the needs of religious education in the modern era.

METHODS

This research used a qualitative methodological framework with a case study design. The qualitative approach was chosen as a step to achieve the main objective of the research to gain an in-depth understanding of teachers' perspectives on Artificial Intelligence (AI) among the Ministry of Religious Affairs in East Java. Case studies were used because this research wanted to examine complex and contextual phenomena in a real environment.

The case study design was conducted by conducting structured interviews that contained several contexts; 1) the concept of AI in education, 2) Potential of AI in education, 3) Barriers to the use of AI in education, 4) Expectations of AI in education. The participants in this study were teachers working within the Ministry of Religious Affairs in East Java. We involved 50 teachers with diverse backgrounds in age, education level, institution (elementary school, madrasah tsanawiyah, madrasah aliyah), ethnicity and race.

Data analysis in this study includes several stages of data collection, data reduction and verification. The data collection process was carried out by familiarizing the data collected, compiling transcripts of open-ended questionnaires, coding with the themes of AI concepts, AI potential, barriers to AI implementation and expectations of AI use in madrasah education. Data reduction was done by conducting in-depth interpretation relevant to the emerging constructs. Data verification (triangulation) was conducted based on the diversity of the researched subjects to confirm the findings. Findings from data analysis were presented in the research report using relevant narratives. The presentation of important findings is directed at the contribution of research in the world of education.

RESULTS AND DISCUSSION

Findings

The main findings of this research include several things including Understanding AI in education, Potential of AI in education, Barriers to the use of AI in education, expectations of AI in education. The following is a visualization of the research findings;

A. Understanding AI in Education



Figure 1. Understanding AI in education

The concept of AI in education from the perspective of madrasah teachers is smart technology and virtual assistant in education.

B. Potential of AI in Education



Figure 2. Potential of AI in education

AI has been optimized to support the quality of learning process services and administrative work.

C. Obstacles AI in Education



Figure 3. Obstacles AI in education

The bigger barrier identified was unfamiliarity with diversity and its use. They still struggle because they don't often use AI in their educational activities

D. AI expectations in Education



Figure 4. AI Expectations in Education

The majority of madrasah teachers expect AI to be a supporting force to improve the quality of learning and improve teacher performance.

Finally, this study found that the concept of AI according to madrasah teachers is an artificial intelligence technology that can be optimized as a virtual assistant. Madrasah teachers' understanding of the potential of AI is very

diverse, including as an artificial technology that can optimize administrative activities, improve the quality of learning, support professional tasks and so on. However, the obstacle that occurs in the implementation of AI for madrasah teachers is the lack of familiarity with how to use it. Furthermore, madrasah teachers hope that AI can be implemented as a support for administrative areas, improvising learning, designing learning, virtual tutors in the future.

ANALYSIS

AI has been a technological invention that targets all sectors of life. This research seeks to uncover teachers' perspectives on AI within the Ministry of Religious Affairs in East Java. It is interesting to reveal that this research found several things, namely the concept of AI in education, the potential of AI in education, the obstacles of AI in education and the expectations of AI in education according to the perspective of teachers in the ministry of religion.

The concept of AI in education from the madrasah teachers' perspective is smart technology and assistants in education. This finding has relevance to previous research that sees AI as a teacher assistant. Teacher assistants include AI technologies that provide personalized support to teachers in activities that support students' learning experiences (Ciechanowski et al. 2019; Mekni 2021; Reyes et al. 2019). Other research reveals that AI is said to be a virtual assistant because it provides support for making assessments, generating educational content, offering instant feedback so as to optimize learning (Gubareva and Lopes 2020; Mina et al. 2023).

The concept of AI for madrasah teachers, apart from being a virtual assistant, is as an intelligent technology. Seeing this fact, it is relevant to the existing conditions. AI intelligence has successfully assisted educators in overcoming variability in student learning, anticipating failures in learning and providing greater carrying capacity in various student skills and needs (Hsu, Abelson, and Van Brummelen 2022; Huang et al. 2021; Nemorin et al. 2023; Zhang and Aslan 2021). The findings of this study lead to the conclusion that madrasah teachers have perspectives that are relevant to the development of technology support in the education sector.

It is equally interesting to see the madrasah teachers' perspectives on the potential that AI has provided to support their profession. It is an encouraging finding that AI has been optimized as a supporter of the quality of learning services and administrative work. This novelty is in line with previous findings that AI can automate routine tasks, conduct assessment data analysis and improve the efficiency and productivity of teachers' professional work (Alam 2021; Hsu et al. 2022; Joo, Kim, and Kim 2023). AI as a supporter of the quality

of learning services has been proven by the emergence of a variety of media, making it easier to find materials, browse various evaluation instruments, create creativity in learning (Al Braiki et al. 2020; Cope, Kalantzis, and Sears Smith 2021; Reyes et al. 2019). In the context of the potential of AI in madrasah teachers, it leads to the conclusion that the potential of AI has been recognized as a carrying capacity in learning and administrative activities.

The great potential of AI for the field of madrasah teacher education is accompanied by various barriers. The larger identified barrier is unfamiliarity with its diversity and use. This means that gaps in teachers' knowledge of AI triggering misconceptions are a reality for madrasah teachers (Chen et al. 2020; Zhang and Aslan 2021). Surprising findings also point to some madrasah teachers' belief that the use of AI tools will erase teachers' professional duties. Thus, the knowledge gap along with the rejection of AI advancements are barriers to the use of AI among madrasah teachers.

As a follow-up, madrasah teachers' expectations of AI in their professional world are an interesting part. The majority of madrasah teachers expect AI to be a supportive tool to improve the quality of learning and increase teacher potential. Over time, many AIs have become increasingly relevant to the needs of the teaching profession (Cope et al. 2021; Kim et al. 2020; Mina et al. 2023). The convenience that AI provides in supporting professional tasks is growing (Huang et al. 2021; Reyes et al. 2019; Zhang and Aslan 2021). At least, it should be noted that this hope needs to be accompanied by real action to create creative active actions to achieve the expected indicators as a form of success for madrasah teachers in carrying out the education cycle.

CONCLUSION

This research seeks to uncover teachers' perspectives on AI within the Ministry of Religious Affairs in East Java. Madrasah teachers recognize AI in the world of education. However, many madrasah teachers have a limited understanding of how to use it. Most madrasah teachers are aware of AI and its potential to optimize the education process. However, resistance is encountered due to fears about shifting the function of the teaching profession. The findings of this study suggest the need for further discussion on the implementation of AI in the context of madrasahs. The government, educational institutions, and teachers need to work together to formulate adequate guidelines, address ethical concerns, and improve preparedness for the development of AI technologies in madrasah education.

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