

The Effect of Artificial Intelligence in Learning Media on Religious Character and Critical Thinking of Islamic Religious Education (PAI) Students

Alfin Rahmatin Munir^{a,1,*}

^a Universitas Islam Negeri Sultan Syarif Kasim, Indonesia.

¹ 22590114647@students.uin-suska.ac.id

*Correspondent Author

Received: 11-08-2026

Revised: 21-09-2026

Accepted: 28-10-2026

KEYWORDS

Artificial Intelligence;
Learning Media;
Religious Character;
Critical Thinking;
Islamic Religious Education

ABSTRACT

This study aims to analyze the effect of Artificial Intelligence (AI) in learning media on the religious character and critical thinking skills of Islamic Religious Education (PAI) students at Universitas Islam Riau. The study employed a quantitative approach with a correlational-regression design. The population consisted of 69 active second-semester students of the PAI Study Program, and a sample of 56 students was determined using the Slovin formula and selected through random sampling. Data were collected using a 25-item Likert-scale questionnaire and analyzed through validity and reliability tests, classical assumption tests, and simple linear regression using SPSS version 25. The results show that the use of AI has a positive and significant effect on students' religious character, with a contribution of 24.4%, and on their critical thinking skills, with a contribution of 27.4%. These findings indicate that AI can serve as a learning medium that supports a more interactive, effective, and adaptive learning process. Nevertheless, its use requires ethical control and digital literacy so that it remains prudent and supports students' Islamic values.

This is an open-access article under the [CC-BY-SA](#) license.



Introduction

The development of digital technology in the era of the Industrial Revolution 4.0 has brought significant changes to education, including the learning of Islamic Religious Education (PAI). One rapidly growing innovation is Artificial Intelligence (AI). AI can support the learning process by providing information quickly, personalized materials, learning data analysis, and more adaptive and interactive learning interactions (Alfayumi et al., 2025). PAI in higher education carries a dual responsibility: building scholarly competence while instilling Islamic values that are reflected in students' character and behavior. In this context, the effectiveness of learning media and methods becomes a determining factor that cannot be ignored.

The use of AI opens new opportunities to improve the quality of learning. AI helps students understand Islamic materials more broadly through access to digital literature, learning simulations, interactive discussions, and fast, personalized feedback. Technologies such as ChatGPT, educational chatbots, and AI-based learning platforms enable a more flexible, effective, and contextual learning experience that suits students' needs (Safitri and Susilo, 2025). Twenty-first-century learning requires students not only to master knowledge but also to develop critical, creative, collaborative, and communicative thinking skills. Critical thinking matters because students are required to

analyze information, evaluate arguments, and make rational decisions when facing various life challenges. This ability is needed so that students understand religious teachings not only textually but can also examine Islamic values contextually and in a way that is relevant to contemporary developments. Previous research shows that the use of AI in PAI learning can help improve students' critical thinking skills through information exploration, problem solving, and discussion based on digital technology (Syarifuddin, 2025).

In addition to critical thinking, PAI learning aims to develop students' religious character. Religious character is reflected in faith, piety, noble conduct, honesty, responsibility, and behavior that is aligned with Islamic values in daily life. Developing this character poses its own challenge because students receive not only positive information but also a variety of content that can influence their morals and behavior. Therefore, the use of AI in PAI learning needs to be directed wisely, not only to improve academic ability but also to strengthen the internalization of religious values. Nurani and Tohari (2025) studied PAI students and linked AI use to honesty as part of religious character, showing that AI use without ethical control can affect students' academic integrity.

Universitas Islam Riau, as an Islamic higher education institution, has a responsibility to prepare PAI students who can face the challenges of the digital era while remaining grounded in Islamic values. PAI students are expected to have not only pedagogical competence and technological mastery but also good religious character and critical thinking skills. Therefore, the use of AI as a PAI learning medium deserves closer study to determine the extent of its influence on the formation of students' religious character and critical thinking skills.

Conceptually, Russell and Norvig (2021) define AI as technology designed to imitate human thinking, including machine learning, problem solving, pattern recognition, and data-based decision making. Suyanto (2019) states that AI enables computers to learn, think, and make decisions like humans through computation and data processing. In education, AI is used to make learning more effective, interactive, and adaptive to learners' needs, among others through applications such as ChatGPT, Gemini, Canva AI, and Quizizz AI. This technology helps educators develop and evaluate learning materials, and helps students find references, understand materials, and engage in academic discussion. In the PAI context, AI can be used to access Islamic literature and understand religious concepts. However, uncontrolled use of AI can create dependence on technology, reduce independent thinking, and encourage instant behavior in completing academic tasks. For this reason, AI must be used wisely so that it continues to support educational goals, especially the formation of character and the development of students' critical thinking skills.

Religious character is one of the 18 character values in the Strengthening of Character Education (PPK) program under Presidential Regulation Number 87 of 2017 (Republic of Indonesia, 2017). According to Syed Muhammad Naquib al-Attas (1991), religious character relates to the cultivation of adab, namely the recognition and acknowledgment of the proper place of everything according to the Islamic worldview. Thus, religious character is related not only to the performance of worship but also encompasses moral attitude, ethics, responsibility, honesty, tolerance, and social concern based on religious teachings. Amid globalization and digitalization, Generation Z, who grow up with digital technology, are vulnerable to moral decadence, individualism, and materialism (Wijayanti and Abdurrahman, 2025). Therefore, the role of Islamic education in shaping religious character becomes increasingly strategic. PAI students, as prospective Islamic educators, are expected to have good religious character so that they can serve as role models in academic and social life. This character formation can be achieved through the learning process, the educational environment, habituation, and the use of learning media that support Islamic values.

Critical thinking is the skill of constructing analysis drawn from concepts, knowledge, and personal experience in a problem, analyzing the most appropriate solution, and evaluating the solution that has been determined (Padmakrisya and Meiliasari, 2023). Yuberti (2020) defines it as learners' ability to analyze information, evaluate arguments, and make decisions logically based on facts, while Karwati and Priansa (2022) define it as the ability to think rationally and analytically in processing information so as to reach appropriate decisions in learning. From these views, critical thinking can be understood as the ability to analyze, evaluate, and solve problems logically, systematically, and objectively. This ability is important in the digital era because the development of technology and information demands the ability to filter and assess the accuracy of information. Students who think critically are able to identify problems sharply, analyze information from various sources, construct rational arguments, and make decisions based on logical considerations. This ability also trains students not to accept information at face value but to test it skeptically and methodologically so that they can produce innovative solutions to complex social and scientific phenomena.

Previous studies have examined the use of AI in PAI learning in terms of media effectiveness (Alfayumi et al., 2025), critical thinking skills (Syarifuddin, 2025), academic integrity (Nurani and Tohari, 2025), and student character building (Prastyono et al., 2023). These studies generally highlight one particular aspect, so there remains room to examine the effect of AI on character and thinking aspects simultaneously within a single research design among PAI students. This study seeks to complement those studies by quantitatively testing the effect of AI use on both religious character and critical thinking skills of PAI students at Universitas Islam Riau.

Based on the above description, this study aims to analyze the effect of AI in PAI learning media on the formation of religious character and critical thinking skills of PAI students at Universitas Islam Riau. The hypotheses tested are (1) AI use has a significant effect on students' religious character and (2) AI use has a significant effect on students' critical thinking skills. This study is expected to provide a scholarly contribution to the development of AI-based learning media that is oriented not only toward improving students' cognitive abilities but also toward supporting the strengthening of religious character in line with the values of Islamic education.

Method

Type and Approach of the Research

This study is empirical field research with a quantitative approach and a correlational-regression design. This approach was chosen because it suits the research objective, namely testing the cause-and-effect relationship between the independent variable, AI use in PAI learning media, and the dependent variables, namely students' religious character and critical thinking skills. The correlational-regression design was used because the researcher did not administer any treatment to respondents but measured existing conditions and then tested how much the independent variable explains the variation in the dependent variables. The study involves one independent variable (X) and two dependent variables (Y_1 and Y_2), so the analysis was carried out through two separate simple linear regression models.

Location, Population, and Sample

The study was conducted in the Islamic Religious Education Study Program of Universitas Islam Riau. The population was all active second-semester students of the PAI Study Program, totaling 69 students. The sample size was determined using the Slovin formula with a 5% margin of

error, yielding 56 students, who were selected through random sampling. The data source was primary data obtained directly from respondents.

Research Variables and Instrument

The independent variable (X) is AI use in PAI learning media, namely the use of technologies such as ChatGPT, Gemini, Canva AI, and Quizizz AI to access literature, understand materials, and engage in academic discussion. The first dependent variable (Y_1) is religious character, which in this study is understood as faith, piety, noble conduct, honesty, responsibility, and behavior aligned with Islamic values. The second dependent variable (Y_2) is critical thinking skills, namely the ability to analyze information, evaluate arguments, and make decisions logically and systematically.

Data were collected through a Likert-scale questionnaire consisting of 25 items covering indicators of AI use, religious character, and critical thinking skills. The maximum ideal score of the instrument is 125, namely 25 items multiplied by the highest score of 5 on each item.

Research Procedure

The research procedure was carried out in several stages. The first stage was developing the questionnaire based on indicators of AI use, religious character, and critical thinking skills. The second stage was collecting data by distributing the questionnaire to the students selected as the sample. The third stage was checking and entering respondents' answers into data-processing software. The final stage was data analysis, from instrument testing and classical assumption tests to hypothesis testing.

Data Analysis Technique

Data analysis was carried out in stages, including descriptive statistical analysis; instrument validity and reliability tests; classical assumption tests in the form of a normality test (Kolmogorov-Smirnov) and a linearity test (ANOVA); and hypothesis testing using simple linear regression. All analyses were performed using SPSS version 25.

The decision criteria at each stage are as follows. An instrument item is declared valid if the calculated r value is greater than the r table value (0.266) with a significance below 0.05, while reliability is assessed using the Cronbach's Alpha coefficient. Data are declared normally distributed if the significance of the Kolmogorov-Smirnov test is greater than 0.05, and the relationship between variables is declared linear if the significance on the *deviation from linearity* row is greater than 0.05. In hypothesis testing, the regression model is formulated as $Y = a + bX$, with H_0 rejected if the significance value is less than 0.05. The contribution of the independent variable to the dependent variable is seen from the coefficient of determination (R^2).

Result

This section presents the results of the data analysis without further interpretation. The presentation begins with the data description and instrument tests, followed by the classical assumption tests, then the regression results for each dependent variable, and ends with a summary of the hypothesis tests.

Data Description and Instrument Tests

Based on data from 56 respondents, total scores ranged from 52 (lowest) to 112 (highest) out of a maximum score of 125. The mean total score was 90.57, equivalent to 72.5% of the maximum score, which falls in the high category. Of the 25 instrument items, 24 were declared valid (calculated $r > 0.266$; $p < 0.05$), while one item, X16 ($r = 0.163$; $p = 0.204$), was declared invalid because its item-total correlation was below the threshold of 0.266 and statistically not significant. Therefore, item X16 was not included in the questionnaire used for hypothesis testing. The reliability test showed a Cronbach's Alpha value of 0.864 (very reliable category), so the instrument has very good consistency for measuring the variables studied. A summary of the instrument test results is presented in Table 1.

Table 1. Summary of Instrument Validity and Reliability Test Results

Aspect Tested	Result
Number of instrument items	25 items
Valid items (calculated $r > 0.266$; $p < 0.05$)	24 items
Invalid items	1 item (X16; $r = 0.163$; $p = 0.204$)
Cronbach's Alpha	0.864 (very reliable)

Classical Assumption Tests

The normality test using the *One-Sample Kolmogorov-Smirnov Test* at a significance level of $\alpha = 0.05$ yielded a significance value of 0.200 for the data on AI use and religious character, and 0.172 for the data on AI use and critical thinking skills. Because both values are greater than 0.05, the data are declared normally distributed. Furthermore, the linearity test showed a significance value on the *deviation from linearity* row of 0.44 for the relationship between AI use (X) and religious character (Y_1) and 0.138 for the relationship between AI use (X) and critical thinking skills (Y_2). Both values are greater than 0.05, so it can be concluded that the relationships between variables are linear. With both assumptions met, the simple linear regression analysis could proceed. The results of the classical assumption tests are summarized in Table 2.

Table 2. Summary of Normality and Linearity Test Results

Variable Relationship	Kolmogorov-Smirnov Sig.	Deviation from Linearity Sig.	Decision
X with Y1	0.200	0.440	Normal and linear
X with Y2	0.172	0.138	Normal and linear

The Effect of AI Use on the Religious Character of PAI Students

The results of the simple linear regression test on the effect of AI use on the religious character of PAI students at Universitas Islam Riau are presented in Table 3, Table 4, and Table 5.

Table 3. Simple Linear Regression Results of AI Use on Religious Character

Model	Regression Coefficient (B)
Constant (a)	14.460
AI Use (X)	0.325

Table 3 shows a constant (a) of 14.460 and a regression coefficient for AI use (b) of 0.325, so the regression equation is $Y_1 = 14.460 + 0.325X$. The constant of 14.460 means that if AI use is zero, students' religious character score is 14.460. The regression coefficient of 0.325 means that each one-unit increase in the AI use score is followed by an increase of 0.325 in the religious character score. The positive sign of the coefficient indicates that the two variables move in the same direction.

Table 4. ANOVA Results of the Effect of AI Use on Religious Character

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	208.741	1	208.741	17.471	0.000
Residual	645.187	54	11.948		
Total	853.929	55			

Based on Table 4, the significance value (*p-value*) of 0.000 is smaller than the significance level of 0.05 ($0.000 < 0.05$). Thus, H_0 is rejected and H_a is accepted, which means that AI use has a significant effect on the religious character of PAI students at Universitas Islam Riau. The calculated F value of 17.471 with 1 and 54 degrees of freedom also supports this decision. In simple linear regression, the calculated t value equals the square root of the calculated F value, which is approximately 4.180.

Table 5. Model Summary of the Effect of AI Use on Religious Character

R	R ²	Adjusted R ²	Std. Error of the Estimate
0.494	0.244	0.230	3.45658

The correlation coefficient (R) in Table 5 is 0.494, indicating a positive relationship of moderate strength between AI use and religious character. The magnitude of the effect of AI use on religious character is shown by the coefficient of determination (R^2), which is 0.244. This means that AI use contributes 24.4% to the formation of religious character among PAI students at Universitas Islam Riau, while the remaining 75.6% is influenced by other factors not examined in this study. The adjusted R^2 of 0.230 shows that this contribution remains in the same range after accounting for sample size.

The Effect of AI Use on the Critical Thinking Skills of PAI Students

The results of the simple linear regression test on the effect of AI use on the critical thinking skills of PAI students at Universitas Islam Riau are presented in Table 6, Table 7, and Table 8.

Table 6. Simple Linear Regression Results of AI Use on Critical Thinking Skills

Model	Regression Coefficient (B)
Constant (a)	12.142
AI Use (X)	0.449

Table 6 shows a constant (a) of 12.142 and a regression coefficient for AI use (b) of 0.449, so the regression equation is $Y_2 = 12.142 + 0.449X$. The constant of 12.142 means that if AI use is zero, students' critical thinking score is 12.142. The regression coefficient of 0.449 means that each one-unit increase in the AI use score is followed by an increase of 0.449 in the critical thinking score.

Table 7. ANOVA Results of the Effect of AI Use on Critical Thinking Skills

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	399.474	1	399.474	20.380	0.000
Residual	1,058.454	54	19.601		
Total	1,457.929	55			

Based on Table 7, the significance value (*p-value*) of 0.000 is smaller than the significance level of 0.05 ($0.000 < 0.05$). Thus, H_0 is rejected and H_a is accepted, which means that AI use has a significant effect on the critical thinking skills of PAI students at Universitas Islam Riau. The calculated F value of 20.380 with 1 and 54 degrees of freedom is equivalent to a calculated t value of approximately 4.514.

Table 8. Model Summary of the Effect of AI Use on Critical Thinking Skills

R	R ²	Adjusted R ²	Std. Error of the Estimate
0.523	0.274	0.261	4.42730

The correlation coefficient (R) in Table 8 is 0.523, indicating a positive relationship of moderate strength. The magnitude of the effect of AI use on critical thinking skills is shown by the coefficient of determination (R^2), which is 0.274. This means that AI use contributes 27.4% to the critical thinking skills of PAI students at Universitas Islam Riau, while the remaining 72.6% is influenced by other factors not examined in this study. The adjusted R^2 is 0.261.

Summary of Hypothesis Testing

The results of testing the two research hypotheses are summarized in Table 9. Both alternative hypotheses are accepted at the 0.05 significance level, and the contribution of AI use to both dependent variables is in the range of about one quarter of the existing variation.

Table 9. Summary of Research Hypothesis Testing

Hypothesis	Calculated F	Sig.	R ²	Decision
AI use on religious character (Y1)	17.471	0.000	0.244	H1 accepted
AI use on critical thinking skills (Y2)	20.380	0.000	0.274	H2 accepted

Discussion

This section interprets the findings presented in the results section by relating them to the theoretical framework and previous studies. The discussion follows the two research hypotheses, and then proceeds to a comparison of contributions, other factors outside the study, implications for PAI learning, and the limitations of the study.

Data and Instrument Quality

Before interpreting the effects between variables, data quality needs to be ensured first. A Cronbach's Alpha of 0.864 shows that the questionnaire items are consistent in measuring the intended constructs, and 24 of the 25 items proved valid. The elimination of item X16 does not change the direction of the conclusions because that item was not used in hypothesis testing. The fulfillment of the normality and linearity assumptions also shows that the simple linear regression model is appropriate, so the reported regression coefficients and R^2 values can be interpreted with reasonable confidence for the sample studied.

Discussion of the Effect of AI Use on Religious Character

This finding is in line with the study by Juariah and Yahya (2026), which showed that integrating AI-based media into PAI learning can increase student engagement in cognitive, affective, and behavioral aspects, so that students' religious character is strengthened through more interactive and personalized learning. Similar results were reported by Prastyono, Gautama, and Zhafranianto (2023), who examined the use of AI *chatbots* and character building among PKN STAN students using the quantitative SEM-PLS method. Of the 12 variable relationships tested, 11 showed a significant positive effect on character formation, such as integrity, discipline, responsibility, and self-perfection. Thus, the use of AI in PAI learning can contribute significantly to the formation of students' religious character. However, the use of AI-based technology must always be controlled. Information obtained must not be accepted as it is but needs to be validated before being used as a learning reference.

The contribution of 24.4% needs to be read proportionally. This figure shows that AI makes a meaningful contribution, but it does not mean that AI shapes religious character directly. In light of Al-Attas's (1991) view that religious character centers on *adab*, namely the recognition of the proper place of everything, AI is better understood as a means that facilitates this process. AI can broaden students' access to Islamic literature, provide case examples, and open space for discussion, whereas the cultivation of *adab* itself still requires lecturers' role modeling and habituation in daily life.

Honesty is an important note in this discussion. Nurani and Tohari (2025) showed that AI use without ethical control can affect the academic integrity of PAI students. This means that the positive direction of the effect in this study should not be read as a guarantee that every use of AI will strengthen character. Students who use AI to copy answers without understanding their content may instead weaken the values of honesty and responsibility that are part of religious character. In addition, Wijayanti and Abdurrahman (2025) warn that Generation Z, who grow up with digital technology, are vulnerable to moral decadence. Because PAI students belong to this

generation, guiding the use of AI is part of efforts to safeguard students' morals, not merely a technical matter of learning.

Discussion of the Effect of AI Use on Critical Thinking Skills

This finding reinforces the argument that AI affects not only the cognitive aspect but can also support the development of students' values and moral judgment. The study by Jesika Adelsa Putri (2025) also showed that AI and digital literacy have a positive effect on students' critical thinking skills with a contribution of 85.8%. That study emphasizes the importance of mastering AI in improving critical thinking skills in the digital era.

The findings of this study are also consistent with the results of Syarifuddin (2025), which showed that the use of AI in PAI learning can improve students' critical thinking. If critical thinking is understood as the ability to analyze the most appropriate solution and evaluate the solution that has been determined (Padmakrisya and Meiliasari, 2023), as well as the ability to analyze information and evaluate arguments based on facts (Yuberti, 2020), then AI provides relevant practice space. Students can ask questions repeatedly, compare several viewpoints, and assess the quality of the answers given. This process of assessing answers relates directly to the rational and analytical ability described by Karwati and Priansa (2022).

Nevertheless, these benefits depend on how AI is used. If students merely accept answers instantly, AI can instead reduce independent thinking, as noted in the introduction. Therefore, AI should be positioned as a tool for testing and deepening understanding, not as a substitute for students' thinking process.

Comparison of Contributions to the Two Dependent Variables

The contribution of AI use to critical thinking skills (27.4%) is slightly larger than its contribution to religious character (24.4%), a difference of three percentage points. Conceptually, this difference can be understood because the main features of AI, such as information retrieval, concept explanation, and argument comparison, relate directly to cognitive activity. Religious character, on the other hand, is shaped more through habituation, role modeling, and the environment. However, this explanation is interpretive and has not been tested in this study. In addition, the two dependent variables were measured with different scores, so a small difference should not be over-interpreted. What matters more is that both contributions are in the same range and both are statistically significant.

In terms of regression coefficients, a 10-point increase in the AI use score is followed by an estimated increase of 3.25 points in the religious character score ($b = 0.325$) and 4.49 points in the critical thinking score ($b = 0.449$). As for the constants of 14.460 and 12.142, they should not be read as the real condition of students who do not use AI at all, because a score of zero is likely outside the range of the observed data. The constant is better viewed as the starting point of the regression equation.

Other Factors and the Importance of Digital Literacy

The formation of religious character and critical thinking skills is influenced not only by learning media but also by other factors, such as the family environment, the social environment, campus academic culture, and students' habituation of religious practices in daily life. This is reflected in the remaining influence of 75.6% on religious character and 72.6% on critical thinking skills that comes from factors outside this study. The family serves as the initial foundation for instilling religious, moral, and ethical values from an early age. Meanwhile, the social environment and campus culture shape students' religious attitudes and behavior through religious activities, the cultivation of noble conduct, and social interaction based on Islamic values.

The development of AI technology in education offers significant opportunities to support more effective, interactive, and accessible learning. AI can help students obtain Islamic information quickly, improve their understanding of materials, and support adaptive and innovative learning. However, the use of AI requires a wise approach because it can pose ethical challenges, dependence on instant answers, and a decline in independent analytical ability if not accompanied by good digital literacy. Therefore, the use of AI in PAI needs to be directed as a supporting learning tool.

Digital literacy is a prerequisite for AI to be used productively. Safitri and Susilo (2025) place digital literacy as the foundation for using AI in PAI students' learning activities, and the study by Adelsa Putri (2025) shows that AI and digital literacy together influence critical thinking skills. From an Islamic perspective, the attitude of verifying information before accepting it is in line with the principle of *tabayyun* as indicated in Qur'an Al-Hujurat [49]: 6, as well as the prohibition on following what one has no knowledge of in Qur'an Al-Isra' [17]: 36. This principle is relevant for PAI students who use AI, because AI output can be mistaken or not based on strong references, especially on matters of Islamic law and exegesis.

Implications for PAI Learning

The findings of this study carry several practical implications. For lecturers, AI can be designed as part of learning activities, for example by asking students to compare AI answers with primary sources such as the Qur'an, hadith, and reference books, and then write a reflection on their accuracy and errors. This approach uses AI's potential to train critical thinking while safeguarding academic honesty. For study programs, guidelines on AI use are needed that set out ethical boundaries, source-citation requirements, and supervision mechanisms so that the benefits of AI are not accompanied by a decline in integrity. For students, AI needs to be treated as a learning companion, not a substitute for the process of reading, understanding, and reasoning. In this way, the effectiveness of AI reported by Alfayumi et al. (2025) can be achieved without sacrificing Islamic values.

Limitations of the Study

This study has several limitations that need to be considered when interpreting its results. First, the sample came from only one study program and one cohort, namely second-semester PAI students at Universitas Islam Riau, so generalization to other universities must be done with caution. Second, the data were obtained through a self-report questionnaire, so respondents'

answers may be influenced by perception and a tendency toward socially desirable responses, especially for the religious character variable. Third, the analysis used simple linear regression with one independent variable, so the influence of other factors indicated by the remaining influence of 75.6% and 72.6% cannot yet be explained. Fourth, this study is cross-sectional, so it does not describe changes in character and critical thinking skills over time. Fifth, one instrument item (X16) was invalid and was removed from the analysis, so the wording of that item needs to be improved in future research.

Conclusion

The use of AI in PAI learning media has a positive and significant effect on the religious character and critical thinking skills of PAI students at Universitas Islam Riau. The better the use of AI in learning, the greater the improvement in both aspects. The contribution of AI use to religious character of 24.4% shows that AI can support the internalization of Islamic values through interactive, flexible, and accessible learning. Its contribution to critical thinking skills of 27.4% shows that AI helps students analyze information, evaluate arguments, solve problems, and make decisions logically and systematically, and encourages students to be more active, analytical, and reflective in understanding PAI issues.

Nevertheless, students' religious character and critical thinking skills are influenced not only by AI use but also by the family environment, the social environment, campus academic culture, and the habituation of religious practices. Therefore, AI needs to be directed wisely as a supporting learning medium that remains grounded in Islamic values, so that a balance is achieved between technological mastery, the strengthening of religious character, and the development of students' critical thinking skills. Based on these findings, lecturers and the PAI study program are advised to direct the use of AI as a learning support tool accompanied by supervision, strengthening of digital literacy, and the habit of verifying information so that students' academic integrity and Islamic values are maintained. Future researchers are advised to consider other variables, such as the family environment, the social environment, and campus academic culture, and to expand the sample to other study programs or universities.

References

- Adelsa Putri, Jesika. 2025. "Pengaruh Penggunaan Artificial Intelligence (AI) dan Literasi Digital terhadap Keterampilan Berpikir Kritis Mahasiswa Pendidikan Ekonomi Universitas Jambi Angkatan 2023 di Era Digital" [The effect of artificial intelligence (AI) use and digital literacy on the critical thinking skills of 2023 Economics Education students of Universitas Jambi in the digital era]. Undergraduate thesis, Universitas Jambi.
- Al-Attas, Syed Muhammad Naquib. 1991. *The Concept of Education in Islam*. Kuala Lumpur: ISTAC.
- Alfayumi, Muhamad Lutfi, Asep Tutun Usman, and Nenden Munawaroh. 2025. "Efektivitas Pemanfaatan Media Artificial Intelligence pada Pembelajaran Pendidikan Agama Islam di MAN 1 Garut" [The effectiveness of using artificial intelligence media in Islamic religious education learning at MAN 1 Garut]. *TARLIM: Jurnal Pendidikan Agama Islam* 8 (2): 211–20.
- Juariah, Siti, and Muhamad Slamet Yahya. 2026. "The Role of PAI Learning in Shaping Students' Religious Character in the Digital Age: Integration of Artificial Intelligence-Based Media." *Jurnal Konseling Pendidikan Islam* 7 (2): 30–37.
- Karwati, Euis, and Donni Juni Priansa. 2022. *Manajemen Kelas (Classroom Management)*. Bandung: Alfabeta.

- Nurani, Agnia Fitri, and Heri Mohamad Tohari. 2025. "Analisis Deontologis Praktik Kejujuran Mahasiswa dalam Pemanfaatan AI pada Pendidikan Agama Islam" [A deontological analysis of students' honesty in using AI in Islamic religious education]. *I'tishomia: Journal Education Islamic Studies* 1 (1): 14–24.
- Padmakrisya, Maria Rosariona, and Meiliasari Meiliasari. 2023. "Studi Literatur: Keterampilan Berpikir Kritis dalam Matematika" [Literature study: Critical thinking skills in mathematics]. *Jurnal Basicedu* 7 (6): 3702–10.
- Prastyono, Anggi, Bryan Habib Gautama, and Ihza Zhafranianto. 2023. "Penggunaan Chatbot Artificial Intelligence dan Pembangunan Karakter Mahasiswa: Sebuah Studi Empiris" [The use of artificial intelligence chatbots and student character building: An empirical study]. *Jurnal Minfo Polgan* 12 (2): 2551–60.
- Republic of Indonesia. 2017. *Peraturan Presiden Nomor 87 Tahun 2017 tentang Penguatan Pendidikan Karakter* [Presidential Regulation Number 87 of 2017 on Strengthening Character Education].
- Russell, Stuart, and Peter Norvig. 2021. *Artificial Intelligence: A Modern Approach*. 4th ed. Pearson.
- Safitri, Marcelina Via Hanadya, and Muhammad Joko Susilo. 2025. "Pemanfaatan AI dalam Mendukung Aktivitas Pembelajaran Mahasiswa PAI Berbasis Literasi Digital" [The use of AI to support digital literacy-based learning activities of PAI students]. *INNOVASI: Jurnal Inovasi Pendidikan* 11 (2): 184–90.
- Suyanto. 2019. *Artificial Intelligence: Searching, Reasoning, Planning dan Learning*. Bandung: Informatika.
- Syarifuddin. 2025. "Meningkatkan Berpikir Kritis pada Mahasiswa dengan Pemanfaatan Artificial Intelegent pada Pembelajaran Pendidikan Agama Islam" [Improving students' critical thinking through the use of artificial intelligence in Islamic religious education learning]. *SAP (Susunan Artikel Pendidikan)* 10 (1): 56–63.
- Wijayanti, Syaputri, and Zulkarnain Abdurrahman. 2025. "Analisis Faktor Dekadensi Moral Generasi Z dan Solusinya dalam Konseling Islam" [An analysis of the factors of Generation Z's moral decadence and their solutions in Islamic counseling]. *Al-Ittizaan: Jurnal Bimbingan Konseling Islam* 8 (1): 56–70.
- Yuberti. 2020. *Teori Pembelajaran dan Pengembangan Bahan Ajar dalam Pendidikan*. Lampung: Anugrah Utama Raharja.