



Ethical Negotiation and Value Mediation in AI-Driven Project-Based Learning: Insights from Islamic Schools

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DOI: <https://doi.org/10.61987/olped.v1i1.203>

Article History:

Received: 11 January 2026

Revised: 28 March 2026

Accepted: 23 May 2026

Keywords:

Artificial Intelligence, Islamic Education, Project-Based Learning, Ethical AI

Abstract:

The rapid integration of artificial intelligence (AI) into education creates opportunities for project-based learning (PBL) while raising ethical concerns regarding student autonomy, information reliability, bias, and responsible technology use. These challenges become particularly complex in Islamic schools, where educational practices are grounded in religious and moral values. This study examines how teachers, students, and educational stakeholders negotiate Islamic ethical values in implementing AI-supported PBL and identifies how these negotiations shape responsible pedagogical practices. This study employed a qualitative narrative inquiry with eight purposively selected informants, including teachers, school leaders, students, parents, and educational supervisors. Data were collected through narrative-based in-depth interviews, participant observation, and pedagogical artifact analysis. We analyzed the data using Clandinin and Connelly's three-dimensional narrative inquiry space, focusing on temporality, sociality, and place. The findings reveal four themes: Islamic value negotiation in AI project design; ethical tensions between technological efficiency and learning independence; teacher agency as an ethical filter; and students' emerging critical awareness of AI bias. The study contributes to developing an Islamic value-based AI ethics framework that positions ethical negotiation, teacher agency, and student critical agency as central elements of responsible AI-supported PBL.

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INTRODUCTION

Artificial intelligence (AI) is increasingly transforming how knowledge is produced, accessed, and learned, making its integration an important societal issue. In education, AI can support teaching, personalize learning, facilitate content development, and expand opportunities for technology-enhanced instruction. Recent studies show that AI has become increasingly relevant to Islamic education, particularly through its potential to improve teaching practices and learning experiences (Abubakari et al., 2024; An et al., 2025; Siregar et al., 2025; Retnoningsih et al., 2026). This transformation is important because educational institutions are not only technological environments but also spaces

for developing knowledge, character, and ethical responsibility. Therefore, AI integration requires attention not only to technological effectiveness but also to the values that guide its use. This issue becomes particularly significant in Islamic schools, where educational practices are closely connected to religious and moral principles.

Despite its educational potential, AI integration raises a broader question: how can technology be used without weakening educational values and human agency? Ethical concerns include student dependence, inappropriate use of generated information, privacy, bias, and uncertainty regarding teachers' responsibilities in AI-supported learning (Holmes et al., 2022; Gouseti et al., 2025; Porayska-Pomsta et al., 2023). Research on AI literacy also indicates that students need more than operational knowledge; they require critical abilities to understand, evaluate, and use AI responsibly (Yim & Su, 2025; Patriansyah et al., 2026; Roni et al., 2026). In Islamic education, this problem becomes more complex because technological practices must coexist with religiously grounded expectations concerning character, responsibility, and ethical conduct. Consequently, the central societal problem is not simply whether AI should be adopted, but how its adoption can remain educationally meaningful, ethically responsible, and consistent with institutional values.

This problem is visible in the experiences of Islamic educational actors who encounter AI within project-based learning (PBL). Teachers and students may benefit from AI to generate ideas, access information, and support project development, yet they must also determine whether AI-generated content is accurate, appropriate, and compatible with Islamic values. Existing research confirms the growing relevance of AI-supported PBL for critical thinking, self-efficacy, creativity, and pedagogical innovation (Harahap et al., 2025; Liang & Luo, 2024; Manoocherzadeh et al., 2025; Ruiz Viruel et al., 2025). However, these studies primarily emphasize pedagogical opportunities and implementation rather than the lived process through which Islamic educational actors negotiate ethical boundaries. This phenomenon indicates that AI use in Islamic PBL involves continuous interpretation, filtering, adaptation, and decision-making rather than straightforward technological adoption.

Previous research has examined AI integration in Islamic education from several perspectives. Systematic reviews and conceptual studies have discussed its educational opportunities, challenges, ethical requirements, and implications for teaching and learning (Amilusholihah & Ramadhan, 2025; Abubakari et al., 2024; An et al., 2025). Studies in Indonesia have also examined technology integration in Islamic educational practices and institutional management (Anshori et al., 2025; Siregar et al., 2025). In parallel, research on teacher agency shows that educators actively shape technology use to fit pedagogical contexts rather than merely accepting technological affordances (Chen, 2022; Pathiranage & Karunaratne, 2023; Umasugi et al., 2026). Nevertheless, these strands of literature remain largely separated. Research on Islamic education emphasizes values and implementation, while studies of teacher agency emphasize technological practice. The interaction between Islamic values, teacher agency, and AI-supported PBL therefore remains insufficiently explored.

Research on AI ethics in education further demonstrates the importance of examining responsibility, fairness, transparency, privacy, and human agency (Holmes et al., 2022; Holmes et al., 2023; Wiese et al., 2025; Usher & Barak, 2024). Meanwhile, studies of AI literacy increasingly emphasize critical evaluation rather than technical competence alone (Kelley & Wenzel, 2025; Yim & Su, 2025; Suciati et al., 2026). These

studies provide important foundations but generally employ universal or secular ethical orientations that do not fully explain how religious communities interpret AI-related dilemmas. Research on Islamic education has begun addressing ethical and philosophical dimensions of AI, yet empirical accounts of how educators and students actively negotiate competing values during learning remain limited (Hastuty et al., 2025; Djazilan et al., 2024; Rudiana et al., 2026). This gap matters because ethical principles gain practical meaning through everyday decisions. Understanding these decisions can explain how Islamic educational communities translate general ethical principles into concrete AI use practices.

This study's novelty lies in integrating three dimensions rarely examined as one interconnected process: AI-supported project-based learning, Islamic educational values, and active ethical negotiation among educational actors. Rather than positioning AI use as acceptance or rejection, this study conceptualizes it as an ongoing process of filtering, interpreting, adapting, and regulating technological affordances. The study further develops the idea of teacher agency by positioning teachers as ethical interpreters who mediate interactions between AI, students, institutional expectations, and Islamic values. It also advances the possibility of understanding students not merely as AI users but as critical and responsible participants in digital learning. Through these interconnected dimensions, the study seeks to formulate a grounded conceptual model explaining how Islamic values shape AI-supported pedagogy while preserving technological usefulness and student intellectual agency.

Accordingly, the research problem concerns how Islamic educational actors experience and negotiate ethical values when implementing AI in project-based learning. The study argues that effective AI integration in Islamic education depends neither on unrestricted technological adoption nor on technological rejection, but on educational actors' capacity to establish meaningful ethical boundaries. Teachers, students, and institutions are expected to interpret AI outputs, assess their compatibility with Islamic values, regulate appropriate use, and preserve students' independent reasoning. By examining these processes through a qualitative narrative perspective, this study contributes an empirically grounded understanding of ethical AI integration in Islamic PBL. The anticipated contribution is a conceptual model of Islamic AI value negotiation that explains how religious values, institutional expectations, teacher agency, learning design, and student critical agency interact in shaping responsible AI-supported education.

RESEARCH METHOD

This study employed a qualitative approach using narrative inquiry to explore how Islamic values are negotiated through AI-based Project-Based Learning (PBL). Narrative inquiry was selected because it is appropriate for examining lived experiences, personal meanings, and experiences unfolding across time and social contexts (Kutsyuruba & Stasel, 2023; Wei, 2023). The approach enables participants to construct stories about their encounters with AI, including changes in pedagogical practice, ethical considerations, and Islamic values. It also allows the researcher to interpret narratives while recognizing participants' perspectives as central sources of meaning (Islam & Sayeed Akhter, 2022; Wei, 2023). Rather than treating experiences as isolated events, the study examined how participants described, interpreted, and negotiated their experiences within educational relationships and institutional contexts. Thus, narrative

inquiry provided a suitable framework for understanding the complexity of AI-supported Islamic education.

The research was conducted in three Islamic schools purposively selected to represent diverse educational and social contexts: an Integrated Islamic Junior High School in Yogyakarta, an Islamic Senior High School in Surakarta, and a private Islamic Junior High School (MTs) in Semarang. The study was conducted from January to April 2026. School selection followed three criteria: implementation of AI-based PBL for at least one semester, a strong institutional Islamic identity, and variation in socioeconomic and urban-semiurban contexts. Purposive sampling was appropriate because participants were selected for their direct relevance to the phenomenon under investigation (Ahmad & Wilkins, 2025; Magnone & Yeziarski, 2024). We recruited eight informants through purposive and snowball sampling, including teachers, school leaders, students, a parent, and a Ministry of Religious Affairs supervisor. Table 1 presents their profiles.

Table 1. Profile of Research Informants

No.	Code	Position/Role	Experience	School Context
1	INF-01	PAI Teacher & Curriculum Coordinator	14 years	Integrated Islamic Junior High School, Yogyakarta
2	INF-02	Principal	19 years	Islamic Senior High School, Surakarta
3	INF-03	Information Technology Teacher	9 years	Private Islamic Junior High School, Semarang
4	INF-04	Grade XI Student (AI-PBL Participant)	—	Islamic Senior High School, Surakarta
5	INF-05	Grade VIII Student (AI-PBL Participant)	—	Integrated Islamic Junior High School, Yogyakarta
6	INF-06	Student Parent	—	Integrated Islamic Junior High School, Yogyakarta
7	INF-07	School Supervisor, Ministry of Religious Affairs	22 years	Central Java Region
8	INF-08	Mathematics Teacher & PBL Facilitator	11 years	Private Islamic Junior High School, Semarang

Data were collected through in-depth narrative interviews, participant observation, and pedagogical document analysis. Interviews invited participants to recount their experiences of using AI in learning, beginning with broad, open prompts rather than rigidly structured questions. This format supported detailed accounts of experiences, perceptions, and value negotiations. The researcher conducted participant observation during one complete AI-based PBL cycle at each school, lasting approximately two to four weeks, observing classroom interactions while maintaining a limited participatory role. Participant observation can provide contextualized understanding of actions, interactions, and meanings within natural settings (Da Costa et al., 2024; Elhamma, 2024). Documentary data included student worksheets, project guidelines, AI interaction screenshots, and school policies concerning technology use. Combining interviews, observations, and documents strengthened contextual understanding and enabled methodological triangulation (Chand, 2025; Elhamma, 2024).

Data analysis followed a systematic, iterative process of data condensation, data display, and verification, while retaining the study's narrative orientation. First, the researcher condensed interview transcripts, observation notes, and documents by selecting, organizing, and coding information directly relevant to AI-based PBL, Islamic values, and participants' experiences. Second, the researcher displayed the condensed

data in structured narrative matrices that organized experiences across participants, schools, events, and emerging themes. Third, the researcher compared narratives to identify recurring patterns, differences, tensions, and value negotiations, while preserving the context of each participant’s account. Finally, the researcher verified findings through source and method triangulation, member checking, and systematic cross-comparison across interview, observation, and documentary evidence. Such procedures support transparent qualitative analysis and further strengthen the credibility and trustworthiness of interpretations (Alam, 2021; Miller et al., 2023).

RESULT AND DISCUSSION

Result

A narrative analysis of the eight informants produced a rich, interconnected theme map. Overall, four main themes with eight subthemes emerged, reflecting the complexity of negotiating ethics and values in implementing AI in PBL in Islamic schools (Syukur et al., 2024). Table 2 below summarizes the themes and subthemes found, along with brief descriptions.

Table 2. Theme Map and Subthemes of Research Findings		
Tema Utama	Subtheme	Description of Findings
Negotiation of Islamic Values	Integration of monotheistic values in PBL-AI design	Teachers actively align AI-based project topics with Islamic values, such as honesty (<i>amanah</i>) and responsibility.
Negotiation of Islamic Values	Resistance to AI content that goes against the faith	There is active rejection of AI outputs considered Western cultural bias or contrary to the values of monotheism.
Ethical Tensions	Student data privacy concerns	Teachers and parents expressed serious concerns about AI platforms using students' personal data.
Ethical Tensions	Cognitive dependency vs. learning independence	Debate over the extent to which AI can 'replace' students' thinking processes in PBL.
Teacher Agency	Ethical curriculum reframing	Teachers act as 'ethical filters' between AI technology and Islamic educational values.
Teacher Agency	Negotiations with school authorities	Some teachers negotiate informally with school principals about limits on AI use.
Student Participation	Criticism of AI bias	Students begin to develop a critical awareness of limitations and biases in AI responses.
Student Participation	Internalization of Islamic digital ethics	Students associate AI use with trust and avoid cheating from an Islamic perspective.

Negotiation of Islamic Values in AI Project Design

Operationally, negotiating Islamic values refers to the process through which teachers select, evaluate, modify, and contextualize AI-generated content so project objectives remain consistent with Islamic principles. The field data indicate that teachers did not treat AI outputs as ready-to-use instructional materials. Instead, they examined the relevance, ethical implications, and religious compatibility of AI-generated information before incorporating it into PBL activities. This negotiation occurred particularly in selecting learning resources, formulating project objectives, and developing assessment criteria. INF-01, a PAI teacher and curriculum coordinator, described this practice: “Saya selalu tanya dulu ke AI, lalu saya saring, apakah ini sesuai nilai Islam atau tidak.” This statement indicates that AI integration involved deliberate human judgment rather than technological acceptance.

A second interview further illustrates the institutional dimension of this negotiation. INF-02, the school principal, explained, “Sekolah kami memang secara eksplisit membuat kebijakan bahwa setiap penggunaan AI harus melewati apa yang kami sebut ‘filter nilai’. Guru tidak boleh langsung menggunakan output AI.” The researcher interprets these two accounts as evidence that value negotiation occurred at both pedagogical and institutional levels. INF-01 demonstrated individual teacher agency through screening and adapting AI content, whereas INF-02 described an institutional mechanism that formalized such screening. Therefore, Islamic values functioned not merely as additional content but as criteria for determining whether AI-generated materials were pedagogically acceptable.

Participant observation supported these interview accounts. During an AI-based PBL session at the Integrated Islamic Junior High School in Yogyakarta, the researcher observed INF-03 interrupting the learning activity after an AI-generated visual was considered inconsistent with Islamic standards of modesty. Rather than simply deleting the material, the teacher asked students why the AI had produced such an image and encouraged them to discuss the ethical dimensions of the output. The researcher interprets this event as evidence that value negotiation was enacted through classroom interaction. The teacher turned a problematic AI output into an opportunity for ethical digital literacy, showing that value filtering could become part of the learning process.

The findings show that AI-based PBL did not operate as a technologically autonomous learning process. Teachers continuously mediated AI outputs by examining their compatibility with Islamic values and adapting project components accordingly. The negotiation involved content selection, learning objectives, assessment criteria, and classroom responses to problematic outputs. The data therefore indicate that Islamic values were embedded in the design and implementation of AI-supported projects rather than added after technological activities were completed. The central pattern was teachers actively positioning themselves as mediators between AI-generated possibilities and the school's religious-educational expectations.

Ethical Tension between Technological Efficiency and Learning Independence

Operationally, this subtheme refers to the tension educational actors experience when AI increases the efficiency of completing academic tasks while raising concerns about students' independent thinking, intellectual effort, and responsible technology use. Field data show that AI was seen as useful for accelerating information searches, generating ideas, and supporting project completion, but its convenience also raised concerns about cognitive dependence. INF-03 described this tension: “*Minggu pertama pakai AI, saya senang, siswa aktif sekali. Tapi minggu kedua, saya mulai khawatir. Mereka tidak mau mikir lagi sebelum tanya AI.*” The statement indicates a shift in the teacher's perception from technological enthusiasm to concern about reduced student initiative.

A second perspective emerged from INF-07, a Ministry of Religious Affairs school supervisor, who connected independent thinking with Islamic responsibility: “*Dalam Islam, akal adalah amanah. Kita diperintahkan untuk menggunakan akal, untuk berpikir, untuk iqra' dalam pengertian yang sesungguhnya membaca, menganalisis, memahami.*” The researcher interprets the two narratives as revealing complementary dimensions of the same tension. INF-03 emphasized the pedagogical consequence of excessive dependence on AI, while INF-07 framed independent reasoning as an ethical and religious responsibility. Together, the accounts suggest the concern was not simply whether

students could complete assignments without assistance, but whether AI use displaced the intellectual process education was expected to cultivate.

Observation further revealed that this tension appeared in students' classroom behavior. During PBL activities, the researcher observed students turning to AI immediately when they encountered difficulties, rather than first discussing possible solutions with peers or consulting project materials. Teachers subsequently redirected students to formulate their own explanations before comparing them with AI-generated responses. The researcher interprets this interaction as evidence that technological efficiency required active pedagogical regulation. AI was not rejected, but its use was positioned after students had attempted to reason independently. This practice suggests that teachers were attempting to establish a sequence in which AI supplemented rather than replaced students' cognitive engagement.

Restated, the findings show a recurring ethical tension between the convenience AI offers and the educational responsibility to preserve students' intellectual independence. Participants recognized that AI could make PBL activities more efficient, yet they also observed that unrestricted use could encourage students to outsource thinking to technology. The issue therefore extended beyond technical competence and involved questions of responsibility, intellectual effort, and the meaning of learning in an Islamic educational environment. AI was considered useful when it supported students' reasoning, but problematic when it became a substitute for reasoning itself.

Teacher Agency as an Ethical Filter

Operationally, teacher agency as an ethical filter refers to teachers' capacity to make pedagogical and moral decisions concerning AI use rather than merely following technological recommendations or institutional instructions. The findings indicate that teachers actively evaluated AI outputs, established boundaries for student use, and negotiated institutional policies. INF-08, a mathematics teacher and PBL facilitator, described the role metaphorically: *"Saya ibaratkan diri saya seperti filter air. Air (AI) itu mengandung banyak hal yang berguna, tapi juga ada kotoran. Tugas saya bukan melarang siswa minum air, tapi memastikan air yang mereka minum sudah bersih."* This narrative shows that the teacher viewed ethical mediation as a core pedagogical responsibility rather than a restriction on innovation.

The second interview with INF-01 demonstrates that teacher agency also operated beyond direct classroom interaction. INF-01 explained, *"Kepala sekolah awalnya mau melarang total penggunaan AI. Saya mengajukan proposal kecil: kenapa tidak kita buat protokol penggunaan AI yang didasarkan pada nilai-nilai kami?"* The researcher interprets these accounts as showing two dimensions of teacher agency. INF-08 emphasized mediation between students and AI, while INF-01 demonstrated agency in negotiating institutional policy. Thus, teachers were not merely implementers of AI-related decisions; they helped define the conditions under which AI could legitimately be used in the school environment.

Observational data reinforced this interpretation. During classroom activities, teachers were observed intervening when AI-generated information appeared inaccurate, ethically questionable, or insufficiently contextualized. Rather than providing students with immediate corrected answers, teachers asked them to compare AI outputs with learning materials, discuss potential problems, and justify their final decisions. The researcher interprets this pattern as evidence that teachers enacted ethical filtering

through pedagogical questioning. Teachers turned AI verification into a learning activity, gradually building students' capacity to evaluate technological outputs.

In restatement, teacher agency emerged as a central mechanism connecting technological innovation with Islamic educational values. Teachers performed several filtering functions: evaluating content, identifying ethical concerns, questioning AI-generated information, guiding student use, and negotiating institutional rules. The findings suggest that the ethical integration of AI depended not only on the availability of technology or formal regulations but also on teachers' willingness and capacity to exercise professional judgment. The teacher therefore occupied an intermediary position between technological affordances, institutional expectations, and students' moral and intellectual development.

Development of Students' Critical Awareness of AI Bias

Operationally, students' critical awareness of AI bias refers to their ability to recognize that AI-generated information is not necessarily neutral, universally valid, or automatically compatible with their epistemological and religious perspectives. The findings indicate that students gradually moved from perceiving AI as an authoritative source toward questioning its outputs. INF-04, a Grade XI student, reflected, "*Awalnya saya pikir AI itu selalu benar. Tapi waktu kami bikin proyek tentang sejarah Islam, AI memberikan penjelasan yang terasa kurang pas.*" This statement indicates an emerging awareness that AI-generated responses may reflect particular perspectives and may require contextual evaluation, especially when addressing religious or historical subjects.

INF-05 provided a complementary account concerning the ethical use of AI: "*Pakai AI harus jujur, tidak boleh copy langsung. Itu kan sama dengan menipu.*" The researcher interprets these two narratives as representing different but interconnected dimensions of critical awareness. INF-04 demonstrated epistemic awareness by questioning the neutrality and perspective of AI-generated information, while INF-05 demonstrated moral awareness by linking AI use to honesty and responsible academic behavior. Together, the narratives indicate that students were beginning to evaluate AI not only by whether its answers were useful, but also by whether the information and practices surrounding its use were truthful and ethically acceptable.

Observation showed that students increasingly engaged in verification practices during PBL activities. The researcher observed students comparing AI-generated information with teacher-provided learning materials and discussing differences between AI responses and their own understanding. In some instances, students reformulated questions to AI after recognizing that an initial response was incomplete or inconsistent with the project context. The researcher interprets these behaviors as evidence of developing critical digital literacy. Students were not simply consuming AI-generated answers; they began to question, compare, verify, and contextualize the information the technology produced.

In short, the findings indicate that students developed critical awareness through direct encounters with the limitations and variability of AI-generated information. Students gradually recognized that AI could provide useful assistance without necessarily providing unquestionable truth. At the same time, Islamic values such as honesty and responsibility provided a moral framework for deciding how to use AI. Critical AI literacy therefore emerged through the interaction between technological experience and value internalization. The students' developing ability to question AI outputs and regulate their

own use suggests that ethical AI literacy was becoming part of the learning process rather than remaining solely a teachers' responsibility.

Table 3. Summary of Narrative Frequency and Key Quotations by Informant

Code	Role	Dominant Theme	Narrative Frequency	Key Quotation
INF-01	PAI Teacher	Value Negotiation	High (12 segments)	"Saya selalu tanya dulu ke AI, lalu saya saring, apakah ini sesuai nilai Islam atau tidak."
INF-02	Principal	Institutional Agency	Moderate (7 segments)	"Sekolah harus menjadi benteng nilai di era digital."
INF-03	IT Teacher	Ethical Tension	High (11 segments)	"Saya khawatir siswa menjadi 'malas berpikir' karena AI."
INF-04	Grade XI Student	Student Critical Agency	Moderate (8 segments)	"AI kadang jawabannya bias, tidak selalu sesuai nilai kita."
INF-05	Grade VIII Student	Value Internalization	Low (4 segments)	"Pakai AI harus jujur, tidak boleh copy langsung, itu kan sama dengan menipu."
INF-06	Parent	Privacy Concerns	Moderate (6 segments)	"Saya tidak tahu data anak saya digunakan untuk apa oleh aplikasi itu."
INF-07	Ministry of Religious Affairs Supervisor	Regulation and Policy	High (10 segments)	"Belum ada panduan resmi penggunaan AI di madrasah, kami masih meraba-raba."
INF-08	Mathematics Teacher & PBL Facilitator	Pedagogical Tension	Moderate (9 segments)	"PBL dengan AI menarik, tapi perlu kerangka nilai yang jelas."

Table 3 shows that concerns about AI were not concentrated in a single actor or role but were distributed across the educational ecosystem. INF-01, INF-03, INF-07, and INF-08 generated relatively high narrative frequencies, suggesting that teachers and educational authorities provided particularly extensive accounts concerning value negotiation, ethical tensions, policy uncertainty, and pedagogical regulation. INF-01's 12 segments and INF-03's 11 segments are consistent with their direct involvement in designing and implementing AI-supported learning. Meanwhile, INF-07's 10 segments indicate that AI integration was also understood as a regulatory and institutional issue. The moderate frequencies among INF-02, INF-04, INF-06, and INF-08 show that school leadership, students, parents, and facilitators added perspectives that extended the discussion beyond classroom implementation.

The table also reveals an important pattern in the narratives' substance. The themes move from institutional and teacher-level regulation toward student-level internalization and critical agency. INF-01 and INF-02 represent the processes through which values were formally and informally established; INF-03 and INF-08 illustrate the pedagogical tensions that emerged during implementation; INF-04 and INF-05 show how students gradually interpreted and internalized ethical principles; INF-06 introduces privacy as a concern located outside the immediate classroom; and INF-07 highlights the broader regulatory context. Thus, the frequency data should not be interpreted merely as an indication of which theme was "most important." Rather, the distribution demonstrates that ethical AI integration was constructed through interconnected layers of educational experience: institutional regulation, teacher mediation, classroom negotiation, student critical awareness, parental concern, and policy uncertainty.

Discussion

The findings fundamentally challenge a binary understanding of AI adoption in education, in which institutions either accept or reject technology. Instead, participants described AI use as a dynamic process of value negotiation involving acceptance, adaptation, filtering, and boundary-setting. This finding is consistent with research emphasizing teacher agency in technology-rich education, where educators actively shape technological affordances rather than merely respond to them (Pathirana & Karunaratne, 2023; Engeness & Gamlem, 2025). It also extends recent studies of AI in Islamic education, which have primarily examined potential benefits, risks, acceptance, and implementation challenges (Amilusholihah & Ramadhan, 2025; Faizin et al., 2025). This study contributes by showing how Islamic educational actors negotiate AI through institutional and religious values, positioning AI integration as a contextualized process rather than simple technological adoption.

The findings further show that AI functions as more than a technical instrument in project-based learning (PBL); it becomes an object of pedagogical and ethical negotiation. This finding corresponds with studies reporting that AI can support project-based learning, differentiated instruction, critical thinking, and creative learning (Arqam & Asrifan, 2024; Ruiz Viruel et al., 2025). However, participants simultaneously emphasized that technological efficiency should not replace students' independent reasoning. This concern complements Adiyono's (2025) finding regarding student reliance on AI-generated answers, while extending it into the Islamic educational context. The present findings suggest that independence is interpreted not merely as a cognitive learning outcome but also as an ethical responsibility. Accordingly, AI-supported PBL requires teachers to regulate when AI assists inquiry and when students must independently construct, verify, and justify knowledge.

The study also identifies Islamic values as an active framework for evaluating AI outputs. Participants described practices of filtering AI-generated information according to values such as amanah, akhlak, critical reasoning, and responsibility. This finding is compatible with literature emphasizing that AI integration in Islamic education requires ethical rather than purely technical implementation (An et al., 2025; Siregar et al., 2025). Nevertheless, the present study extends these discussions by showing how ethical evaluation occurs during everyday pedagogical interactions rather than remaining at the level of institutional recommendations. The resulting concept of the teacher as an "ethical filter" therefore represents a significant contribution. Unlike conventional views of teachers as facilitators of technology-supported learning, teachers in this study actively interpret, evaluate, contextualize, and sometimes reject AI outputs according to Islamic educational values. This finding reinforces research positioning teachers as transformative agents in changing digital school cultures (Reinius et al., 2022; Markauskaite et al., 2023).

The privacy concerns participants expressed similarly reveal a contextual difference from dominant secular approaches to AI ethics. Existing literature generally emphasizes privacy, transparency, fairness, accountability, and responsible governance as central principles of AI ethics in education (Holmes et al., 2023; Gouseti et al., 2025). In this study, however, ethical concerns were interpreted through Islamic concepts of protecting human dignity, reasoning, and well-being. This finding is consistent with broader scholarship showing that Islamic education increasingly integrates technological development with moral and religious considerations (Hamami, 2022; Mahmud, 2023; Syukur et al., 2024). This study shows that these values can serve as practical ethical

resources for evaluating AI use. Thus, Islamic educational ethics does not merely respond to existing AI governance frameworks but can provide a culturally situated basis for interpreting privacy, responsibility, and appropriate technological boundaries.

Based on the synthesis of findings and previous literature, this study proposes the Islamic AI Pedagogy Framework (IAPF). The framework consists of interconnected layers: core Islamic values, institutional frameworks, teacher agency as an ethical filter, PBL-AI design, and student critical agency. This structure corresponds with research emphasizing teacher agency, institutional support, and ethical AI literacy (Kelley & Wenzel, 2025; Wiese et al., 2025), but differs by placing Islamic values at the foundational level of AI-mediated pedagogy. The framework therefore contributes a context-sensitive conceptualization of AI integration in Islamic education. Rather than treating ethics as an additional component after technological implementation, IAPF positions ethical and religious values as conditions that shape institutional policy, teacher decisions, learning design, and student agency simultaneously. Its novelty lies in conceptualizing these elements as mutually interacting layers rather than as sequential stages of technology adoption.

The findings concerning students' critical awareness also extend existing understandings of AI literacy. Participants demonstrated practices such as questioning AI responses, identifying possible bias, verifying information, and connecting responsible AI use with *amanah*. These practices correspond with contemporary calls for AI literacy education that develops critical understanding rather than merely operational skills (Yim & Su, 2025; Kelley & Wenzel, 2025). They also resonate with evidence that AI-supported PBL can strengthen critical thinking and self-efficacy when pedagogically structured (Harahap et al., 2025; Kelley & Wenzel, 2025). However, the present study identifies Islamic values as an endogenous source of critical AI literacy. This differs from approaches that predominantly frame AI literacy through technological competence or general ethical principles. Figure 3.4 therefore illustrates a distinctive contribution: Islamic values can function as an epistemic and ethical scaffold through which students evaluate AI-generated knowledge, question potential bias, verify information, and develop responsible digital agency.

The combined findings suggest a broader conceptual possibility: the emergence of the "*digital khalifah*" as an educational identity. Rather than viewing students simply as AI users or AI-literate individuals, this concept emphasizes responsible technological agency grounded in Islamic values. It aligns with research calling for ethical and effective AI implementation in Islamic education (Abubakari et al., 2024; Djazilan et al., 2024) and with scholarship emphasizing the importance of character formation in Islamic education (Mahmud, 2023; Suyadi, 2022). Yet this study extends these perspectives by connecting character, critical AI literacy, teacher agency, and PBL into one pedagogical configuration. The practical implication is that Islamic schools require more than general AI policies; they need value-sensitive guidance that clarifies appropriate AI use, verification practices, student independence, privacy, and teacher responsibility. Figure 3.5 summarizes this balance between technological opportunities and ethical risks. The principal novelty is integrating Islamic values, teacher agency, PBL, and critical AI literacy within a unified framework.

CONCLUSION

This study concludes that AI implementation in Islamic project-based learning is not a process of simple technological acceptance or rejection, but a dynamic negotiation

in which teachers, students, and educational stakeholders actively interpret, filter, and align AI use with Islamic ethical values. The key lesson is that responsible AI integration depends on preserving human intellectual agency while allowing technology to support learning, with teachers serving as ethical filters and students developing critical awareness of AI-generated information and potential bias. These findings imply that Islamic educational institutions need value-sensitive AI guidance, ethical AI literacy, and pedagogical practices that integrate technological innovation with Islamic character formation. The study's scientific contribution is the Islamic AI Pedagogy Framework (IAPF), which conceptually connects Islamic values, institutional structures, teacher ethical agency, AI-supported PBL, and student critical agency. Nevertheless, the study is limited by its qualitative narrative design, purposive participation of eight informants, and focus on a specific educational context, which limits transferability to other settings. Future research should examine IAPF across diverse Islamic educational institutions, countries, and learner populations and develop empirical instruments for assessing Islamic AI ethical competency.

ACKNOWLEDGEMENT

The authors gratefully acknowledge all research participants and educational stakeholders for their valuable contributions. The authors also thank LP2M Universitas Nurul Jadid Paiton, Institut Agama Islam Qomarul Huda, and Universitas Al-Azhar Syarif for institutional support, and Cendikialiteranusantara and its partners for financial assistance. The authors also thank academic colleagues, reviewers, and family members for their constructive feedback and support.

CONFLICT OF INTEREST

The authors declare that this article was prepared independently and was not influenced by any personal, institutional, or external interests that could constitute a conflict of interest.

USE OF ARTIFICIAL INTELLIGENCE (AI)-ASSISTED TECHNOLOGY

The authors used AI technology (Gemini) as a supporting tool in preparing this manuscript. Its use was conducted responsibly, and the authors retain full responsibility for the scientific content, accuracy of information, and final decisions presented in the article.

REFERENCES

- Abubakari, M. S., Shafik, W., & Hidayatullah, A. F. (2024). Evaluating the Potential of Artificial Intelligence in Islamic Religious Education: A SWOT Analysis Overview. In *AI-Enhanced Teaching Methods* (pp. 216–239). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-2728-9.ch010>
- Adiyono, A. (2025). Impact of Artificial Intelligence on Student Reliance for Exam Answers: A Case Study in IRCT Indonesia. *International Journal of Learning Teaching and Educational Research*, 24(3), 455–479. <https://doi.org/10.26803/ijlter.24.3.22>

- Ahmad, M., & Wilkins, S. (2025). Purposive Sampling in Qualitative Research: A Framework for the Entire Journey. *Quality & Quantity*, 59(2), 1461–1479. <https://doi.org/10.1007/s11135-024-02022-5>
- Alam, M. K. (2021). A Systematic Qualitative Case Study: Questions, Data Collection, NVivo Analysis and Saturation. *Qualitative Research in Organizations and Management: An International Journal*, 16(1), 1–31. <https://doi.org/10.1108/QROM-09-2019-1825>
- Amilusholihah, A., & Ramadhan, N. J. H. (2025). Exploring the Implementation of Artificial Intelligence in Islamic Education: A Systematic Literature Review. *Ngaji: Jurnal Pendidikan Islam*, 5(1), 3–17. <https://doi.org/10.24260/ngaji.v5i1.95>
- An, A. N., Rifai, A., Ali, M., Mustofa, T. A., Vambudi, V. N., Maksum, M. N. R., & Budihargo, M. U. (2025). SWOT Analysis of AI Integration in Islamic Education: Cognitive, Affective, and Psychomotor Impacts. *Qubahan Academic Journal*, 5(1). <https://doi.org/10.48161/qaj.v5n1a1498>
- Anshori, I., Yansyah, D., Nasiroh, N., Urfi, U., & Ismail, H. A. B. H. (2025). Integration of Artificial Intelligence in Education Management Systems to Improve the Quality of Islamic Education. *Thawalib: Jurnal Kependidikan Islam*, 6(2), 209–224. <https://doi.org/10.54150/thawalib.v6i2.616>
- Arqam, A., & Asrifan, A. (2024). Integrating AI in Project-Based Learning for Differentiated English Language Instruction: A Scoping Review. *Journal of English Education and Teaching*, 8(3), 586–608. <https://doi.org/10.33369/jeet.8.3.586-608>
- Chand, S. P. (2025). Methods of Data Collection in Qualitative Research: Interviews, Focus Groups, Observations, and Document Analysis. *Advances in Educational Research and Evaluation*, 6(1), 303–317. <https://doi.org/10.25082/AERE.2025.01.001>
- Chen, M. (2022). Digital Affordances and Teacher Agency in the Context of Teaching Chinese as a Second Language During COVID-19. *System*, 105, 102710. <https://doi.org/10.1016/j.system.2021.102710>
- Da Costa, A. I. L., Rosa, M. D. L. J. M. D. A., & Dioga, P. M. J. (2024). Considering Participant Observation Methods for Nursing Qualitative Research. *The Qualitative Report*, 29(9), 2430–2439. <https://doi.org/10.46743/2160-3715/2024.7647>
- Djazilan, M. S., Rulyansah, A., & Rihlah, J. (2024). Why AI Is Essential for the Future of Islamic Education: A Call for Ethical and Effective Implementation. *EDUKASIA Jurnal Pendidikan dan Pembelajaran*, 5(2), 201–216. <https://doi.org/10.62775/edukasia.v5i2.1373>
- Elhamma, A. (2024). Participant Observation as a Qualitative Research Method in Management Sciences: Interests, Conditions, and Limitations. In *Applying Qualitative Research Methods to Management Science* (pp. 75–91). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-5543-5.ch004>
- Engeness, I., & Gamlem, S. M. (2025). Agency in Digital Education: Empowering Students and Teachers in Technology-Rich Learning Environments. *Education Sciences*, 15(8), 1051. <https://doi.org/10.3390/educsci15081051>
- Faizin, N., Alfian, M., Basid, A., Ramadhan, M. R., Panatik, S. A., & Kawakip, A. N. (2025). Muslim Students' Acceptance of Artificial Intelligence in Islamic Religious Education: An Extended TAM Approach. *Discover Education*, 4(1), 304. <https://doi.org/10.1007/s44217-025-00767-1>
- Gouseti, A., James, F., Fallin, L., & Burden, K. (2025). The Ethics of Using AI in K-12 Education: A Systematic Literature Review. *Technology, Pedagogy and Education*, 34(2), 161–182. <https://doi.org/10.1080/1475939X.2024.2428601>

- Hamami, T. (2022). A Holistic-Integrative Approach of the Muhammadiyah Education System in Indonesia. *HTS Teologiese Studies/Theological Studies*, 78(4). <https://doi.org/10.4102/hts.v78i4.7607>
- Harahap, D. A., Faizin, M., Erydani, V. A. C., Lestari, S., Dewi, D. S., & Ardhi, M. A. (2025). Project-Based Learning with AI-Integration to Foster Critical Thinking Skills and Self-Efficacy of Pre-Service Teachers. *Jurnal Eduscience*, 12(5), 1453–1463. <https://doi.org/10.36987/jes.v12i5.7851>
- Hastuty, A., Maswati, M., Saharuddin, M., Sukri, A. M., & Halik, A. (2025). Artificial Intelligence: A Review of the Philosophy of Islamic Educational Science. *Journal of Research in Instructional*, 5(1), 90–102. <https://doi.org/10.30862/jri.v5i1.573>
- Holmes, W., Iniesto, F., Anastopoulou, S., & Boticario, J. G. (2023). Stakeholder Perspectives on the Ethics of AI in Distance-Based Higher Education. *The International Review of Research in Open and Distributed Learning*, 24(2), 96–117. <https://doi.org/10.19173/irrodl.v24i2.6089>
- Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., Baker, T., Shum, S. B., & Koedinger, K. R. (2022). Ethics of AI in Education: Towards a Community-Wide Framework. *International Journal of Artificial Intelligence in Education*, 32(3), 504–526. <https://doi.org/10.1007/s40593-021-00239-1>
- Islam, R., & Sayeed Akhter, M. (2022). Narrative Inquiry, Phenomenology, and Grounded Theory in Qualitative Research. In *Principles of Social Research Methodology* (pp. 101–115). Springer Nature Singapore. https://doi.org/10.1007/978-981-19-5441-2_8
- Kelley, M., & Wenzel, T. (2025). Advancing Artificial Intelligence Literacy in Teacher Education Through Professional Partnership Inquiry. *Education Sciences*. <https://doi.org/10.3390/educsci15060659>
- Kutsyuruba, B., & Stasel, R. S. (2023). Narrative Inquiry. In *Varieties of Qualitative Research Methods: Selected Contextual Perspectives* (pp. 325–332). Springer International Publishing. https://doi.org/10.1007/978-3-031-04394-9_51
- Liang, X., & Luo, J. (2024). Integration of ChatGPT into Project-Based Learning: A Course Design Framework. *International Journal of Chinese Language Teaching*, 5(1), 29.
- Magnone, K. Q., & Yezierski, E. J. (2024). Beyond Convenience: A Case and Method for Purposive Sampling in Chemistry Teacher Professional Development Research. *Journal of Chemical Education*, 101(3), 718. <https://doi.org/10.1021/acs.jchemed.3c00217>
- Mahmud, S. (2023). Building Students' Character Based on Maqasid al-Shari'ah: Perspectives of Parents, Teachers, and Community Members in Banda Aceh. *Samarah*, 7(3), 1803–1826. <https://doi.org/10.22373/sjhk.v7i3.17708>
- Manoocherzadeh, M., Isaee, H., & Barjesteh, H. (2025). Artificial Intelligence in Project-Based Learning: A Systematic Review of Its Role in English Language Acquisition and Pedagogical Innovation. *Indonesian Journal of Pedagogy and Teacher Education*, 3(3), 81–91. <https://doi.org/10.58723/ijopate.v3i3.502>
- Markauskaite, L., Carvalho, L., & Fawns, T. (2023). The Role of Teachers in a Sustainable University: From Digital Competencies to Postdigital Capabilities. *Educational Technology Research and Development*, 71(1), 181–198. <https://doi.org/10.1007/s11423-023-10199-z>
- Miller, E. M., Porter, J. E., & Barbagallo, M. S. (2023). Simplifying Qualitative Case Study Research Methodology: A Step-By-Step Guide Using a Palliative Care Example. *The Qualitative Report*, 28(8), 2363. <https://doi.org/10.46743/2160-3715/2023.6478>

- Pathiranage, A., & Karunaratne, T. (2023). Teachers' Agency in Technology for Education in Pre- and Post-COVID-19 Periods: A Systematic Literature Review. *Education Sciences*, 13(9), 917. <https://doi.org/10.3390/educsci13090917>
- Patriansyah, M., Natalisa, D., & Maulana, A. (2026). Promotion, Price, and Customer Decisions to Upgrade Electricity Capacity: A Value-Based Decision Approach. *Business and Applied Management Journal*, 4(2), 377–388. <https://doi.org/10.61987/bamj.v4i2.2411>
- Porayska-Pomsta, K., Holmes, W., & Nemorin, S. (2023). The Ethics of AI in Education. In *Handbook of Artificial Intelligence in Education* (pp. 571–604). Edward Elgar Publishing. <https://doi.org/10.4337/9781800375413.00038>
- Reinius, H., Kaukinen, I., Korhonen, T., Juuti, K., & Hakkarainen, K. (2022). Teachers as Transformative Agents in Changing School Culture. *Teaching and Teacher Education*, 120, 103888. <https://doi.org/10.1016/j.tate.2022.103888>
- Retnoningsih, S., Adrianto, T. W., Khoiriyah, K., & Khoirotunnisa, K. (2026). The Influence of Chief Executive Officer Attributes and Board Independence on Earnings Management Practices. *Business and Applied Management Journal*, 4(1), 194–202. <https://doi.org/10.61987/bamj.v4i1.2037>
- Roni, K. A., Pramono, A., Amran, A., Supriyati, S., & Zuliyana, I. (2026). Responsible Leadership and Village Apparatus Performance: The Moderating Role of Village Development Status. *Business and Applied Management Journal*, 4(2), 311–325. <https://doi.org/10.61987/bamj.v4i2.2284>
- Rudiana, D., Muhyi, H. A., & Sukoco, I. (2026). The Effect of E-Procurement Implementation on the Quality of Selection of Goods and Services Providers Through the Tender Method at the Procurement Service Office. *Business and Applied Management Journal*, 4(1), 163–177. <https://doi.org/10.61987/bamj.v4i1.2086>
- Ruiz Viruel, S., Sánchez Rivas, E., & Ruiz Palmero, J. (2025). The Role of Artificial Intelligence in Project-Based Learning: Teacher Perceptions and Pedagogical Implications. *Education Sciences*, 15(2), 150. <https://doi.org/10.3390/educsci15020150>
- Siregar, H., Nurhamzah, N., Munir, M., & Fikri, M. (2025). Enhancing Islamic Education Through Technology Integration: A Study of Teaching Practices in Indonesia. *Jurnal Ilmiah Peuradeun*. <https://doi.org/10.26811/peuradeun.v13i2.1875>
- Suciati, F., Widyastuti, T., Harnovinsah, H., & Darmansyah, D. (2026). Financial Resources, Corporate Governance, and Sustainability Performance: The Mediating Role of Financial Performance in Indonesian Manufacturing Firms. *Business and Applied Management Journal*, 4(2), 295–310. <https://doi.org/10.61987/bamj.v4i2.2280>
- Suyadi. (2022). Academic Reform and Sustainability of Islamic Higher Education in Indonesia. *International Journal of Educational Development*, 89, 102534. <https://doi.org/10.1016/j.ijedudev.2021.102534>
- Syukur, F., Maghfurin, A., Marhamah, U., & Jehwae, P. (2024). Integration of Artificial Intelligence in Islamic Higher Education: Comparative Responses Between Indonesia and Thailand. *Nazhruna: Jurnal Pendidikan Islam*, 7(3), 531–553. <https://doi.org/10.31538/nzh.v7i3.13>
- Umasugi, N., Syaifuddin, S., Wontami, R., Wajo, A. R., & Mubin, M. U. (2026). Sharia-Oriented Performance of Local Government-Owned Islamic Rural Banks in Indonesia: A Disclosure-Based Descriptive Assessment Using the Islamicity Performance Index. *Business and Applied Management Journal*, 4(2), 360–376. <https://doi.org/10.61987/bamj.v4i2.2320>

- Usher, M., & Barak, M. (2024). Unpacking the Role of AI Ethics Online Education for Science and Engineering Students. *International Journal of STEM Education*, 11(1), 35. <https://doi.org/10.1186/s40594-024-00493-4>
- Wei, L. (2023). Narrative Inquiry: A Research Method in the Education Field. *World Journal of Education*, 13(6), 35–40. <https://doi.org/10.5430/wje.v13n6p35>
- Wiese, L. J., Patil, I., Schiff, D. S., & Magana, A. J. (2025). AI Ethics Education: A Systematic Literature Review. *Computers and Education: Artificial Intelligence*, 8, 100405. <https://doi.org/10.1016/j.caeai.2025.100405>
- Yim, I., & Su, J. (2025). Artificial Intelligence Literacy Education in Primary Schools: A Review. *International Journal of Technology and Design Education*, 35, 2175–2204. <https://doi.org/10.1007/s10798-025-09979-w>