J U R N A L T A T S Q I F
Jurnal Pemikiran dan Penelitian Pendidikan
Volume 24, No. 1 (June) 2026
Site: http://journal.uinmataram.ac.id/index.php/tatsqif Email: jurnaltatsqif@uinmataram.ac.id
P ISSN: 1829-5940
E ISSN: 2503-4510

AI-SUPPORTED LEARNING AND MOTIVATIONAL DYNAMICS IN ISLAMIC HIGHER EDUCATION

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Abstract

Artificial intelligence (AI) is increasingly used in higher education to support personalised learning, feedback, translation, assignment preparation, and independent study. However, its role in Islamic higher education requires closer attention because AI use may support student motivation while also creating dependency on algorithmic guidance. This study examines AI-supported learning at Institut Agama Islam Urwatul Wutsqo Jombang, focusing on student engagement, motivational ambivalence, lecturer mediation, and learner autonomy. Using a qualitative case study design, data were collected from 52 participants, consisting of 40 students, eight lecturers, and four academic leaders across four study programmes. Semi-structured interviews, classroom observations, and document analysis were used to understand how AI was experienced in academic learning. The findings show that AI helped students clarify concepts, review learning materials, prepare assignments, translate texts, and access immediate feedback. These practices supported perceived competence and visible engagement. However, AI also created motivational tension when students relied on automated prompts to decide what to study or how to complete tasks. Lecturer mediation emerged as the key condition that helped students verify AI-generated responses, maintain academic responsibility, and use AI critically. The study concludes that AI-supported learning in Islamic higher education should strengthen student competence without weakening autonomy.

Keywords: artificial intelligence; Islamic higher education; student engagement; learning motivation; digital pedagogy

INTRODUCTION

Artificial intelligence (AI) is increasingly shaping higher education through adaptive learning systems, learning analytics, automated feedback, intelligent tutoring, chatbots, machine translation, and generative tools. These technologies have changed how students search for information, receive feedback, complete academic tasks, and make learning decisions. Reviews of AI in higher education show that AI is no longer a peripheral innovation but a pedagogical issue that affects teaching design, assessment, student support, and institutional policy (Bond et al., 2024; Chen et al., 2020; Crompton & Burke, 2023; Ouyang & Jiao, 2021; Zawacki-Richter et al., 2019). This development is significant because AI is often promoted as a solution for personalisation, efficiency, and learning accessibility. However, the educational value of AI cannot be judged only from its technical capacity. AI becomes meaningful in education only when it supports deeper understanding, reflective engagement, responsible judgement, and sustained interaction between students, lecturers, and learning resources (Holmes & Tuomi, 2022; Molenaar, 2022).

In higher education, AI-supported learning offers several pedagogical possibilities. Students may use AI to clarify difficult concepts, receive immediate feedback, generate examples, plan learning activities, translate texts, practise academic writing, and revise assignments. Empirical studies indicate that students often perceive generative AI and chatbot-based learning tools as helpful because they offer flexible support beyond scheduled classroom time (Chan & Hu, 2023; Chiu et al., 2024). Yet these benefits are accompanied by important risks. AI may encourage students to accept automated answers uncritically, rely on system-generated recommendations, or prioritise task completion over intellectual effort. Critical scholarship on AI in education warns that automated systems can shift educational judgement away from teachers and learners if their use is not carefully governed (Nguyen et al., 2023; Selwyn, 2022). The issue is therefore not whether students use AI,

but how AI use shapes the quality of engagement, autonomy, responsibility, and lecturer-student interaction.

Student motivation is a central concern in this debate. From the perspective of Self-Determination Theory, students' learning motivation is shaped by autonomy, competence, and relatedness (Ryan & Deci, 2020). AI may strengthen students' perceived competence when it provides quick explanations, adaptive tasks, and personalised feedback. At the same time, it may weaken autonomy if students become dependent on algorithmic prompts and lose confidence in initiating learning without automated guidance. Recent work on AI assistance and student agency shows that students may rely on AI support without necessarily developing stronger self-regulated learning strategies (Darvishi et al., 2024). Human-centred AI and learning analytics literature also emphasises that educational technologies should not remove human judgement, but should support student agency, transparency, and trust in the learning process (Alfredo et al., 2024). These concerns make motivation a more precise lens than general achievement or technology acceptance because it captures both the productive and problematic consequences of AI-supported learning.

Lecturer mediation is equally important. AI does not operate in a pedagogical vacuum. Its effects depend on how lecturers select tools, structure activities, explain ethical boundaries, guide students' interpretation of AI-generated responses, and connect digital support to course objectives. Studies on higher education teachers' digital competence show that effective technology integration requires more than technical familiarity; it also requires pedagogical judgement, student empowerment, professional learning, and digital literacy (Tondeur et al., 2023). In this sense, lecturer mediation determines whether AI functions as a learning scaffold or as a substitute for students' own thinking. When lecturers invite students to question AI responses, compare sources, revise outputs, and justify their reasoning, AI can become part of reflective learning. When AI is used mainly

for speed and task completion, it may produce engagement that is visible but shallow.

These issues are particularly relevant in Islamic higher education. Islamic higher education is not concerned only with academic performance, but also with adab, disciplined inquiry, ethical responsibility, and the meaningful use of knowledge. The integration of digital technology in such institutions therefore requires value-sensitive pedagogy. Recent studies in Islamic education show that AI has begun to enter religious and Islamic learning contexts through AI-optimised videos, ChatGPT-assisted teaching module development, Qur'anic learning gamification, Arabic translation tools, and institutional AI adoption in Islamic universities (Adiyono et al., 2025; Kurniawan et al., 2024; Nugraha et al., 2025; Rozak et al., 2024; Syukur et al., 2024). These studies suggest that AI may support learning innovation, but they also point to persistent concerns about lecturer readiness, infrastructure, digital inequality, academic integrity, and the preservation of Islamic pedagogical values. Achruh et al. (2024) similarly argue that AI adoption in Indonesian Islamic higher education requires institutional readiness and value-sensitive implementation. From a broader Islamic higher education perspective, the integration of knowledge, ethics, and institutional culture remains essential so that technological innovation does not reduce education to technical efficiency alone (Masturin et al., 2022; Waluyo et al., 2025).

Indonesian research also provides a useful context for this study. Within Jurnal Tatsqif, Putra (2023) shows that teachers and students may view AI writing correction tools positively while still raising questions about academic integrity and classroom use. Earlier work in the same journal on blended and digital learning in higher education shows that technology-supported learning must be designed through appropriate content development, learning activities, and evaluation, rather than introduced as a stand-alone tool (Astuti & Febrian, 2019; Jibril, 2024). These studies are relevant because they show that digital learning in higher education depends

on instructional design, lecturer readiness, and institutional support. However, much of the existing literature still discusses AI adoption, student perception, or digital learning outcomes in broad terms. Less attention has been given to how students in Islamic higher education experience the motivational tension between AI-supported competence and algorithmic dependency, and how lecturers mediate this tension in daily teaching practice.

This study addresses that gap by examining AI-supported learning at Institut Agama Islam Urwatul Wutsqo Jombang as a single institutional case with four embedded programme-level units: Islamic Education, Arabic Language Education, Islamic Education Management, and Madrasah Ibtidaiyah Teacher Education. Rather than treating AI as an automatically beneficial innovation, the study investigates how AI use is experienced, interpreted, and mediated within a specific Islamic higher education context. The novelty of the study lies in its focus on motivational dynamics: the interaction between AI input quality, lecturer mediation, student self-regulation, institutional context, and Islamic educational values. The study is guided by three research questions: (1) How do students and lecturers experience AI-supported learning in the observed Islamic higher education institution? (2) How does AI-supported learning shape students' engagement, perceived competence, autonomy, and dependency? and (3) How does lecturer mediation influence the quality of AI integration in Islamic higher education learning?

LITERATURE REVIEW

This study is grounded in three connected bodies of literature: Self-Determination Theory, human-centred AI-supported learning, and lecturer digital pedagogical competence. These perspectives are used to clarify the conceptual basis of the study rather than to repeat the general background of AI in higher education.

Self-Determination Theory explains motivation through three basic psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2020). Autonomy refers to students' sense of agency in regulating their own learning decisions. Competence refers to students' belief that they can understand, perform, and improve in academic tasks. Relatedness refers to students' sense of connection with lecturers, peers, and the learning environment. In AI-supported learning, these dimensions may develop unevenly. AI feedback may strengthen competence because students receive immediate explanations and task-specific recommendations. However, autonomy may weaken when students depend on automated prompts and wait for the system to direct their next learning step. Relatedness may also change because students may interact more frequently with AI systems than with lecturers or peers. For this reason, motivation in this study is treated as a dynamic condition, not as a fixed psychological state.

AI-supported learning in this study refers to the use of AI tools to assist academic learning through personalised materials, automated feedback, learning recommendations, language support, and task guidance. The concept is close to the distinction between AI-directed, AI-supported, and AI-empowered learning (Ouyang & Jiao, 2021). This study does not assume that AI-supported learning is automatically learner-centred. Instead, it follows critical and human-centred perspectives which argue that AI systems carry pedagogical assumptions and should be evaluated in relation to agency, transparency, ethics, and learner control (Alfredo et al., 2024; Holmes & Tuomi, 2022; Nguyen et al., 2023). AI is therefore understood as a mediating tool. It may support learning when students use it to reflect, revise, compare, and extend understanding, but it may weaken learning responsibility when it becomes the main source of judgement.

Lecturer mediation refers to the pedagogical work lecturers perform when they guide students' use of AI. It includes selecting appropriate tools, explaining ethical boundaries, designing AI-supported tasks, encouraging

source verification, asking students to justify AI-assisted outputs, and connecting AI feedback with course objectives. This concept is informed by hybrid human-AI learning, which argues that AI should augment rather than replace human judgement (Molenaar, 2022). It is also supported by research on higher education teachers' digital competence, which emphasises teaching practice, student empowerment, teachers' digital literacy, and professional development (Tondeur et al., 2023). In the context of this study, lecturer mediation is treated as the key condition that determines whether AI supports reflective learning or encourages algorithmic dependency.

Islamic higher education adds a further conceptual layer. AI-supported learning in Islamic institutions should be examined not only through efficiency, access, and performance, but also through adab, academic honesty, epistemic responsibility, and the ethical use of knowledge. Studies on AI and Islamic education show that digital innovation can support religious learning, Arabic translation, Qur'anic learning, and teaching-material development, but it also requires careful attention to values, authority, verification, and institutional readiness (Achruh et al., 2024; Adiyono et al., 2025; Kurniawan et al., 2024; Nugraha et al., 2025; Rozak et al., 2024; Syukur et al., 2024). This study therefore uses the term AI-supported motivational dynamics to describe the interaction between AI input quality, lecturer mediation, learner self-regulation, and institutional context. The conceptual assumption is that AI does not directly produce stronger motivation. Rather, motivation emerges from how students interpret AI support, how lecturers guide its use, and how the institution frames AI within pedagogical and ethical expectations.

METHOD

This study employed a qualitative case study design. The case was Institut Agama Islam Urwatul Wutsqo Jombang, an Islamic higher education institution where students and lecturers had begun to use AI to support academic learning. Four study programmes were involved: Islamic Education,

Arabic Language Education, Islamic Education Management, and Madrasah Ibtidaiyah Teacher Education. These programmes served as units of analysis within the institutional case because they provided different academic settings for examining AI-supported learning. The design was appropriate because the study aimed to understand AI use as a situated educational practice, especially in relation to student motivation, lecturer mediation, learner autonomy, and algorithmic dependency. A qualitative case study allows educational practices to be examined within their real institutional context and is suitable when the boundaries between practice, participants, and setting need close interpretation (Creswell & Creswell, 2018; Yin, 2018).

The participants consisted of 52 individuals, including 40 students, eight lecturers, and four academic leaders. They were selected purposively because they had direct experience with AI-supported learning, teaching, or academic management in the institution. Students were included when they had used AI tools for learning support, assignment preparation, translation, feedback seeking, content exploration, or independent study. Lecturers were included when they had guided, supervised, or responded to students' use of AI in course activities. Academic leaders were involved to provide information about digital readiness, infrastructure, academic policy, and institutional support for technology-mediated learning. This sampling strategy was used because the study required participants who could provide relevant and experience-based accounts of the phenomenon being examined (Busetto et al., 2020; Hennink & Kaiser, 2022).

Data were collected through semi-structured interviews, classroom observations, and document analysis. The interviews explored participants' experiences of AI-supported learning, including perceived learning support, motivation, autonomy, dependency, lecturer guidance, academic integrity, and ethical concerns. Classroom observations examined how AI was used during learning activities, how lecturers guided students in interpreting AI-generated information, and how students responded to AI-supported tasks. Document

analysis covered semester learning plans, assignment guidelines, lecturer notes, platform-use records, institutional digitalisation documents, and available academic learning records. These sources were used together to understand AI-supported learning from personal, pedagogical, and institutional perspectives.

Data analysis was conducted in two stages. First, data from each study programme were reviewed to identify local patterns of AI use, lecturer mediation, student engagement, learner autonomy, dependency, and institutional constraint. Second, patterns across the four programme units were compared to identify shared themes and meaningful differences within the institution. Interview transcripts and observation notes were analysed through reflexive thematic analysis. The process involved repeated reading, initial coding, theme development, checking themes against the data, and refining the interpretation (Braun & Clarke, 2021). The analysis was informed by the study's conceptual focus on AI input quality, lecturer mediation, learner self-regulation, institutional context, and motivational outcomes. These concepts helped organise the interpretation, but the themes were developed from the data.

Observation summaries and document-based information were used to support the thematic analysis. They helped describe visible patterns of student engagement, lecturer mediation, and programme-level implementation. These materials were interpreted alongside the interview data, not as separate statistical findings. This allowed the study to keep its focus on meaning, practice, and institutional context while still showing how AI-supported learning appeared across the four programme units. All participants were informed about the purpose of the study, participated voluntarily, and were anonymised in the reporting process.

FINDINGS AND DISCUSSION

AI-Supported Learning and Student Engagement

The findings show that students experienced AI as a useful learning support when it helped them clarify concepts, obtain examples, translate materials, review assignments, and receive immediate feedback. AI was not perceived merely as a digital tool, but as an accessible learning companion that could be used beyond classroom time. This was especially visible in programmes where lecturers connected AI use with course tasks and reflection. In these settings, students used AI to revisit difficult concepts and prepare more confidently for classroom discussion.

Table 1. Students' Reported Uses of AI in Academic Learning

Main use of AI	Illustrative student response	Pedagogical meaning
Clarifying difficult concepts	"When I do not understand the lecturer's explanation, I ask AI to explain it in simpler language."	AI helped students access alternative explanations.
Preparing assignments	"I usually use AI to organise my ideas before writing, but I still revise the result."	AI supported planning and drafting.
Translating or checking language	"For Arabic and English materials, AI helps me understand the meaning more quickly."	AI functioned as language support.
Reviewing learning materials	"AI helps me know which topic I need to read again."	AI supported self-monitoring.
Seeking immediate feedback	"I can ask AI first before asking the lecturer in class."	AI gave students quick academic assistance.

The table suggests that AI supported students' engagement mainly by making learning assistance more immediate and accessible. This finding is consistent with studies showing that AI can support higher education learning when it provides adaptive resources, feedback, and flexible academic support

(Bond et al., 2024; Chan & Hu, 2023; Crompton & Burke, 2023). However, the value of AI in this study was not located in the technology itself. AI became educationally useful when students connected its outputs with course materials, lecturer instructions, and their own learning needs. This supports the view that AI-supported learning should be understood as a pedagogical process, not simply as technological adoption (Holmes & Tuomi, 2022; Ouyang & Jiao, 2021).

Observation notes also indicated that students appeared more attentive in AI-supported activities when lecturers gave clear learning tasks. Students were more likely to ask questions, check explanations, and compare answers when AI use was integrated into classroom discussion. In contrast, AI use became less meaningful when students used it only to produce quick answers. This shows that visible digital activity should not automatically be read as deep engagement. Engagement becomes academically meaningful when students can explain, question, and revise what they receive from AI.

Motivational Ambivalence: Competence and Dependency

The second finding concerns motivational ambivalence. Students generally viewed AI positively because it made learning easier, faster, and more flexible. AI appeared to strengthen students' perceived competence because they could obtain explanations and feedback without waiting for classroom meetings. Yet the same support also created dependency for some students, especially when they relied on AI to decide what to study or how to complete tasks.

Table 2. Motivational Meanings of AI-Supported Learning

Motivational aspect	Evidence from participants	Interpretation
Perceived competence	"AI makes me feel more confident because I can check my understanding before submitting an assignment."	AI strengthened students' sense of academic capability.

Learning autonomy	"I use AI as a reference, but I still compare it with lecturer notes."	AI supported autonomy when students remained critical.
Dependency	"When the platform cannot be accessed, I feel confused about where to begin."	AI could weaken independent learning decisions.
Relatedness	"The lecturer asked us to discuss whether the AI answer was correct or not."	Lecturer guidance kept AI use connected to classroom interaction.
Self-regulation	"AI helps me make a study plan, but I still decide which part is important."	AI supported self-regulation when students controlled its use.

This pattern can be read through Self-Determination Theory, which explains motivation through autonomy, competence, and relatedness (Ryan & Deci, 2020). AI supported competence when students received immediate explanations and felt more able to continue learning. However, competence did not always produce autonomy. Some students became more confident in completing tasks but less confident in making learning decisions without AI prompts. This supports recent concerns that AI may improve task efficiency while also weakening learner agency if students are not guided to use it reflectively (Nguyen et al., 2023; Selwyn, 2022).

In Islamic higher education, this tension has ethical significance. Learning is not only about completing academic work, but also about responsibility, honesty, disciplined inquiry, and the careful use of knowledge. AI can support these aims when students use it to check understanding, compare sources, and refine arguments. It becomes problematic when students treat AI output as final authority. Therefore, the issue is not whether students should use AI, but how they are guided to use it responsibly.

Lecturer Mediation and Critical AI Use

The third finding shows that lecturer mediation shaped the quality of AI-supported learning. Students used AI more critically when lecturers gave clear instructions, asked them to verify AI-generated responses, and required them to explain their reasoning. In classes where AI was treated only as a tool

for completing assignments, students tended to rely more heavily on automated answers. This indicates that lecturer mediation was central to preventing AI from becoming a shortcut.

Table 3. Lecturer Mediation in AI-Supported Learning

Form of lecturer mediation	Example from learning practice	Effect on student learning
Giving ethical guidance	Lecturers reminded students not to copy AI-generated answers directly.	Students became more aware of academic integrity.
Asking for verification	Students were asked to compare AI responses with books, articles, or lecturer notes.	AI output was treated as material for checking, not final truth.
Linking AI with course objectives	AI tasks were connected to weekly topics and assignment criteria.	AI use became more focused and academically relevant.
Encouraging reflection	Students discussed why an AI answer was strong, weak, or incomplete.	Students developed more critical engagement.
Providing boundaries	Lecturers explained which parts of the assignment could and could not use AI support.	Students had clearer expectations about responsible AI use.

This finding supports the idea of hybrid human-AI learning, where AI extends learning support but does not replace human judgement (Molenaar, 2022). Lecturer mediation helped students interpret, question, and contextualise AI-generated information. It also prevented students from treating AI as an external authority. This is consistent with Tondeur et al. (2023), who argue that digital competence in higher education involves pedagogical judgement, student empowerment, and professional responsibility, not only technical skill.

The differences across the four programmes also show that AI-supported learning depended on local academic conditions. Islamic Education Management showed stronger integration because AI was connected with classroom management and academic monitoring. Islamic Education

benefited from reflective lecturer guidance. Arabic Language Education used AI creatively for translation and language learning, although the quality of AI-generated Arabic content required careful checking. Madrasah Ibtidaiyah Teacher Education showed more limited implementation because infrastructure and lecturer readiness were less stable.

Table 4. Programme-Level Pattern of AI-Supported Learning

Study programme	Dominant AI use	Main strength	Main challenge
Islamic Education	Reviewing concepts, preparing assignments, discussing ethical AI use	Strong lecturer reflection and value-based guidance	Risk of over-reliance on AI-generated explanations
Arabic Language Education	Translation, vocabulary support, grammar checking, text comparison	Creative use for language learning	Accuracy and reliability of Arabic AI outputs
Islamic Education Management	Learning monitoring, task organisation, academic planning	Stronger digital familiarity and structured use	Dependence on multiple platforms
Madrasah Ibtidaiyah Teacher Education	Assignment support, content exploration, teaching-material ideas	Potential for teaching-media development	Uneven infrastructure and lecturer readiness

These programme-level differences show that AI-supported learning was not experienced in the same way across the institution. The same technology produced different meanings depending on lecturer guidance, student readiness, disciplinary needs, and institutional support. This finding is consistent with studies on AI adoption in Islamic higher education, which show that AI integration requires institutional readiness, ethical guidance, and value-sensitive implementation (Achruh et al., 2024; Syukur et al., 2024). It

also connects with recent studies on AI in Islamic education, which show both the potential and the risks of AI-supported learning innovation (Adiyono et al., 2025; Kurniawan et al., 2024; Nugraha et al., 2025; Rozak et al., 2024).

An Interpretive Framework of AI-Supported Motivational Dynamics

Based on the findings, AI-supported motivational dynamics in this institution can be understood through four connected elements: AI input quality, lecturer mediation, learner self-regulation, and institutional context. These elements shaped whether AI supported engagement and competence or encouraged dependency.

Table 5. Interpretive Framework of AI-Supported Motivational Dynamics

Element	Meaning in this study	Contribution to motivation
AI input quality	The relevance, clarity, and usefulness of AI-generated explanations, feedback, and recommendations	Supports competence when the output is understandable and relevant
Lecturer mediation	The lecturer's guidance in framing, checking, and discussing AI output	Protects autonomy and keeps learning reflective
Learner self-regulation	Students' ability to set goals, monitor progress, and make learning decisions	Determines whether AI becomes support or dependency
Institutional context	Infrastructure, policy, academic culture, and ethical guidance	Shapes the consistency and quality of AI integration

This framework is useful for explaining why AI-supported learning produced both opportunities and tensions. AI helped students access learning support more quickly, but it also exposed differences in autonomy, self-regulation, and lecturer guidance. In some settings, AI functioned as a scaffold for reflection. In others, it became a source of dependency. This finding contributes to the literature by moving the discussion beyond AI adoption towards the motivational processes that occur when AI becomes part of everyday academic learning.

The findings also suggest that AI-supported learning in Islamic higher

education should not be evaluated only through access, speed, or student satisfaction. Its academic value depends on whether students become more capable of thinking, judging, verifying, and learning responsibly. Lecturer mediation is therefore not an additional element, but the condition that determines whether AI supports meaningful learning. In this institution, AI was most valuable when it strengthened students' competence without replacing their autonomy.

CONCLUSION

This study shows that AI-supported learning in the observed Islamic higher education institution was experienced as useful when it helped students clarify difficult concepts, review learning materials, prepare assignments, translate texts, and obtain immediate feedback. In these situations, AI supported students' perceived competence and made academic assistance more accessible beyond classroom time. However, the findings also reveal motivational ambivalence. AI assistance did not always lead to stronger learner autonomy. Some students became dependent on AI-generated prompts and recommendations, especially when they relied on AI to decide what to study or how to complete academic tasks. This suggests that the educational value of AI should not be measured only through access, speed, or student satisfaction, but also through its effect on students' agency, responsibility, and capacity to regulate their own learning.

Lecturer mediation emerged as the key condition shaping the quality of AI use. AI became more meaningful when lecturers guided students to verify AI-generated responses, compare sources, explain their reasoning, and connect AI output with course objectives. The differences across the four study programmes also indicate that AI integration depends on programme context, lecturer readiness, student self-regulation, infrastructure, and institutional guidance. The study contributes an interpretive understanding of AI-supported motivational dynamics in Islamic higher education by showing how

AI input quality, lecturer mediation, learner self-regulation, and institutional context interact in shaping students' motivation. For Islamic higher education, this finding is important because AI use must remain connected to academic honesty, ethical responsibility, disciplined inquiry, and the meaningful use of knowledge. Future development should strengthen lecturer capacity, establish clear ethical guidance for AI use, and design learning activities that help students use AI critically without losing autonomy.

ACKNOWLEDGMENT

The authors sincerely thank the Rector, lecturers, students, and academic staff of Institut Agama Islam Urwatul Wutsqo Jombang for their cooperation and support throughout this study. Special appreciation is extended to all participants for sharing their experiences and insights. The authors are solely responsible for the content of this article.

REFERENCES

Achruh, A., Rapi, M., Rusdi, M., & Idris, R. (2024). Challenges and Opportunities of Artificial Intelligence Adoption in Islamic Education in Indonesian Higher Education Institutions. *International Journal of Learning, Teaching and Educational Research*, *23*(11). https://www.ijlter.org/index.php/ijlter/article/view/11682

Adiyono, A., Matari, A. S. A., Patimah, L., Syahrani, & As, A. A. N. (2025). Can AI-Optimized YouTube Videos Enhance Islamic Religious Education? A Quantitative Study on Student Learning Outcomes. *Jurnal Pendidikan Agama Islam*, *22*(1), 175–194. https://doi.org/10.14421/jpai.v22i1.11100

Alfredo, R., Echeverria, V., Jin, Y., Yan, L., Swiecki, Z., Gašević, D., & Martinez-Maldonado, R. (2024). Human-centred learning analytics and AI in education: A systematic literature review. *Computers and Education: Artificial Intelligence*, *6*, 100215. https://doi.org/10.1016/j.caeai.2024.100215

Astuti, P., & Febrian, F. (2019). BLENDED LEARNING: STUDI EFEKTIVITAS PENGEMBANGAN KONTEN E-LEARNING DI PERGURUAN TINGGI. *Jurnal Tatsqif*, *17*(1), 104–119. https://doi.org/10.20414/jtq.v17i1.972

Bond, M., Khosravi, H., De Laat, M., Bergdahl, N., Negrea, V., Oxley, E., Pham, P., Chong, S. W., & Siemens, G. (2024). A meta systematic review of artificial intelligence in higher education: A call for increased ethics, collaboration,

and rigour. *International Journal of Educational Technology in Higher Education*, *21*(1), 4. https://doi.org/10.1186/s41239-023-00436-z

Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, *18*(3), 328–352. https://doi.org/10.1080/14780887.2020.1769238

Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and Practice*, *2*(1), 14. https://doi.org/10.1186/s42466-020-00059-z

Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: Perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, *20*(1), 43. https://doi.org/10.1186/s41239-023-00411-8

Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. *IEEE Access*, *8*, 75264–75278. https://doi.org/10.1109/ACCESS.2020.2988510

Chiu, T. K. F., Moorhouse, B. L., Chai, C. S., & Ismailov, M. (2024). Teacher support and student motivation to learn with Artificial Intelligence (AI) based chatbot. *Interactive Learning Environments*, *32*(7), 3240–3256. https://doi.org/10.1080/10494820.2023.2172044

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (Fifth edition). SAGE.

Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: The state of the field. *International Journal of Educational Technology in Higher Education*, *20*(1), 22. https://doi.org/10.1186/s41239-023-00392-8

Darvishi, A., Khosravi, H., Sadiq, S., Gašević, D., & Siemens, G. (2024). Impact of AI assistance on student agency. *Computers & Education*, *210*, 104967. https://doi.org/10.1016/j.compedu.2023.104967

Hennink, M., & Kaiser, B. N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science & Medicine*, *292*, 114523. https://doi.org/10.1016/j.socscimed.2021.114523

Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, *57*(4), 542–570. https://doi.org/10.1111/ejed.12533

Jibril, M. (2024). EFFECT OF DIGITAL LEARNING STRATEGIES ON STUDENTS' ACADEMIC PERFORMANCE AND RETENTION OF SELECTED EDUCATIONAL TECHNOLOGY CONCEPTS. *Jurnal Tatsqif*, *22*(1), 36–56. https://doi.org/10.20414/jtq.v22i1.11749

Kurniawan, S., Herlambang, S., Sari, N., Fadian, F., Suratman, B., Nurhidayah, V. A., Naffati, A. K., & Torikoh. (2024). Making Peace with Change: The Effect of GPT Chat Utilization on the Performance of Islamic Religion Teachers in Creating Teaching Modules. *Jurnal Pendidikan Agama Islam*, *21*(2), 492–509. https://doi.org/10.14421/jpai.v21i2.9767

Masturin, M., Ritonga, M. R., & Amaroh, S. (2022). Tawhid-Based Green Learning in Islamic Higher Education: An Insan Kamil Character Building. *QIJIS (Qudus International Journal of Islamic Studies)*, *10*(1), 215–252. https://doi.org/10.21043/qijis.v10i1.14124

Molenaar, I. (2022). Towards hybrid human-AI learning technologies. *European Journal of Education*, *57*(4), 632–645. https://doi.org/10.1111/ejed.12527

Nguyen, A., Ngo, H. N., Hong, Y., Dang, B., & Nguyen, B.-P. T. (2023). Ethical principles for artificial intelligence in education. *Education and Information Technologies*, *28*(4), 4221–4241. https://doi.org/10.1007/s10639-022-11316-w

Nugraha, N. A. A., Firmansyah, M. I., & Nugraha, R. H. (2025). AI-Gamification in Qur'anic Learning: Assessing Indonesian Islamic Religious Education Teachers' Readiness for Generation Alpha. *TARBIYA: Journal of Education in Muslim Society*, 141–162. https://doi.org/10.15408/tjems.v12i1.50479

Ouyang, F., & Jiao, P. (2021). Artificial intelligence in education: The three paradigms. *Computers and Education: Artificial Intelligence*, *2*, 100020. https://doi.org/10.1016/j.caeai.2021.100020

Putra, M. (2023). AI WRITING CORRECTION TOOLS: TEACHERS AND STUDENTS' PERCEPTION. *Jurnal Tatsqif*, *21*(1), 35–66. https://doi.org/10.20414/jtq.v21i1.7963

Rozak, A., Umbar, K., & Albantani, A. M. (2024). The Model of Arabic Learning Translation Using Artificial Intelligence in Social-Media. *Arabiyat : Jurnal Pendidikan Bahasa Arab Dan Kebahasaaraban*, *11*(1), 89–99. https://doi.org/10.15408/a.v11i1.39757

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, *61*, 101860. https://doi.org/10.1016/j.cedpsych.2020.101860

Selwyn, N. (2022). The future of AI and education: Some cautionary notes. *European Journal of Education*, *57*(4), 620–631. https://doi.org/10.1111/ejed.12532

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

Tondeur, J., Howard, S., Van Zanten, M., Gorissen, P., Van der Neut, I., Uerz, D., & Kral, M. (2023). The HeDiCom framework: Higher Education teachers' digital competencies for the future. *Educational Technology Research and Development*, *71*(1), 33–53. https://doi.org/10.1007/s11423-023-10193-5

Waluyo, B., Anita, Akhirudin, Syafaah, D., & Buny Andaru Bahy, Moh. (2025). Bridging secular and religious perspectives: Gender awareness in

language learning in Indonesian higher education. *Social Sciences & Humanities Open*, *12*, 101903. https://doi.org/10.1016/j.ssaho.2025.101903

Yin, R. K. (2018). *Case study research and applications: Design and methods* (Sixth edition). SAGE.

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education – where are the educators? *International Journal of Educational Technology in Higher Education*, *16*(1), 39. https://doi.org/10.1186/s41239-019-0171-0