



EDUKASIA ISLAMIKA
Jurnal Pendidikan Islam
Vol. 10, No. 2, 2025, pp. 181 – 208
P-ISSN: 2548-723X1; E-ISSN: 2548-5822

Pesantren and Digital Literacy: Fiqh-Based Assessment of Islamic Teachers' Competency in Strengthening Religious Moderation

M Jauharul Ma'arif¹, Siti Khoiriyah², Saeful Anwar³

Universitas Nahdlatul Ulama Sunan Giri, Bojonegoro, Indonesia¹

Universitas Nahdlatul Ulama Sunan Giri, Bojonegoro, Indonesia²

Universitas Nahdlatul Ulama Sunan Giri, Bojonegoro, Indonesia³

emjemaarif@unugiri.ac.id¹, khoi@Unugiri.ac.id², saefulanwar@unugiri.ac.id³

*Correspondence: e-mail: emjemaarif@unugiri.ac.id

DOI: 10.28918/jei.v10i2.12117			
Received: 25 June 2025	Revised: 30 September 2025	Approved: 29 November 2025	Available Online: 9 December 2025

Abstrak

Kajian ini menyoroti urgensi pengembangan kompetensi digital guru Pendidikan Agama Islam (PAI) melalui pendekatan berbasis fikih dan berorientasi pada penguatan moderasi beragama, dengan metode *systematic literature review*. Hasil telaah menunjukkan bahwa integrasi teknologi digital dalam pembelajaran PAI masih menghadapi sejumlah tantangan, seperti keterbatasan program pelatihan, ketiadaan instrumen evaluasi yang sahih, rendahnya kesiapan lembaga pendidikan, serta minimnya motivasi guru. Temuan penting penelitian ini menegaskan bahwa kompetensi digital bukan sekadar kebutuhan pedagogis, melainkan juga bentuk *ijtihad* pendidikan yang mendukung praktik keagamaan yang inklusif, adaptif, dan tidak ekstrem. Melalui kerangka Technology Acceptance Model in Islamic Education (TAMISE), mengungkapkan bahwa perspektif keagamaan menjadi faktor dominan dalam penerimaan teknologi, sehingga literasi digital perlu dikembangkan sejalan dengan prinsip fikih seperti *maslahah* dan *ijtihad* serta nilai moderasi beragama, terutama sikap tawassuth, tasamuh, dan i'tidal dalam mengelola informasi digital. Penguatan kompetensi digital guru PAI tidak hanya memperbaiki kualitas pembelajaran dan meningkatkan keterlibatan peserta didik, tetapi juga memperkuat moderasi beragama dalam ekosistem pendidikan Islam di era digital.

Kata Kunci: *Penilaian Kompetensi Digital, Guru Pendidikan Agama Islam, Teknologi Pendidikan Berbasis Fikih, Moderasi Beragama*

Abstract

This study highlights the urgency of developing the digital competence of Islamic Education (PAI) teachers through a Fiqh-based approach oriented toward



This work is licensed under
the CC BY 4.0 Licence.

strengthening religious moderation, using a systematic literature review (SLR). The findings reveal that integrating digital technologies into PAI learning faces several challenges, including limited training programs, the absence of valid evaluation instruments, low institutional readiness, and limited teacher motivation. The study emphasizes that digital competence is not merely a pedagogical necessity, but also an educational form of *ijtihad* that supports inclusive, adaptive, and non-extremist religious practices. Through the Technology Acceptance Model in Islamic Education, this study shows that religious perspectives play a dominant role in technology acceptance; therefore, digital literacy must be developed in alignment with fiqh principles such as *maslahah* and *ijtihad* as well as core values of religious moderation, particularly *tawassuth* (moderation), *tasamuh* (tolerance), and *itidal* (balanced judgment) in navigating digital information. Strengthening PAI teachers' digital competence not only improves learning quality and student engagement but also reinforces religious moderation within the Islamic education ecosystem in the digital era.

Keywords: *Digital Competence Assessment; Islamic Religious Education Teacher; Fiqh-Based Educational Technology, Religious Moderation*

INTRODUCTION

The rapid advancement of digital technology has transformed many aspects of human life, including the education system within pesantren (Munifah, Syamsul, Dina, & ..., 2019). In this context, students who grow up in a digital environment require learning models that are both adaptive and innovative. Such learning does not emerge spontaneously but is closely tied to the presence of teachers with measurable and reliable competencies. Teachers equipped with strong digital literacy skills are better prepared to recognize the diverse needs and characteristics of santri, and to design learning strategies that integrate Islamic values while remaining responsive to the challenges of the digital era (Lubis, Rambe, Azhar, & ..., 2023).

Islamic Religious Education teachers, as the vanguard of religious education in schools, are required to be able to integrate digital technology into the Islamic religious education learning process (Amrin, Asiah, Al-Qosimi, & ..., 2022). This is important because digital technology can help them deliver Islamic Religious Education material more engagingly, support adaptive learning, increase student participation, and connect Islamic Religious Education learning with the real world. The integration of digital technology in Islamic religious education learning also has great potential to encourage quality learning in accordance with one of the goals of

Sustainable Development Goals 4 (SDGs 4) (Ebersole, 2019), (Ardi, 2021), namely quality education.(Mendez et al., 2022).

The issue is closely related to the shifting nature of religious authority in the technological era, which significantly influences how religious understanding is shaped and transmitted. However, in practice, teachers' competence in digitizing Islamic Religious Education learning remains limited. This limitation is grounded in several factors, including the lack of regular, structured training programs to develop teachers' digital competencies, the absence of valid and reliable evaluation instruments, and the insufficient readiness of schools in terms of facilities and institutional support. Internal factors also contribute to this challenge, particularly the low motivation to develop professionally, limited willingness to upgrade digital skills, and the lack of consistent innovation (Single & Husin, 2020; Masuwai et al., 2024; Roofi, 2020).

Some of the above obstacles can be gradually minimized by adopting a well-organized process for teacher competency development, from planning through evaluation. Through the Islamic Religious Education (IRE) teachers' digital competency development program, they will be better prepared to adapt digital technology to support effective, efficient learning. The development of teachers' digital competencies must be measured with valid evaluation tools. The results of these measurements can be used to identify training needs and improve the quality of teacher digital training programs. In addition, regular measurement of IRE teachers' digital competencies can help build their confidence in using digital technology and increase accountability of Islamic religious education learning in the classroom.

By systematically and sustainably developing IRE teachers' digital competence and regularly measuring it, the quality of teacher competence can be clearly monitored, and the IRE learning process in the digital era can be improved. It will also help students to achieve their learning goals. Then the urgency of the study of previous literature that examines the need for a valid and reliable teacher digital competency evaluation tool will be able to provide insight and space to follow up on the results of the evaluation of teachers' digital competencies, take better steps, and

potentially develop teachers' competencies in digitizing learning and creating quality learning.

This systematic development of digital competence for IRE teachers, alongside regular measurement and evaluation, holds particular significance when viewed through the lens of Fiqh (Islamic jurisprudence). Fiqh, as the practical application of Islamic law, necessitates that religious education remains relevant and effective in addressing contemporary challenges. Just as Fiqh scholars historically engaged in *ijtihad* (independent reasoning) to derive rulings for emerging issues, so too must Islamic education adapt its methodologies. Integrating digital technology into IRE learning constitutes "*educational ijtihad*," ensuring that the delivery of Fiqh and other Islamic sciences is accessible, engaging, and impactful for a generation steeped in digital realities. This approach enables a dynamic, ethically sound application of Islamic principles in modern educational contexts, ultimately aiming to cultivate a well-informed, morally grounded Muslim populace.

The Yousif's article (Yousif, 2018) focused on the performance of Islamic Education teachers in developing 21st-century skills at the secondary school level. The study revealed that although Islamic Education teachers demonstrated adequate skills in lesson planning, significant weaknesses remained in selecting appropriate methods, strategies, and learning media. Furthermore, their ability to design assessment components also required improvement to ensure more effective learning processes aligned with 21st-century demands (Lubis & Anggraeni, 2019). These findings emphasize the urgent need to strengthen the pedagogical and technological capacity of Islamic Education teachers to enhance the overall quality of Islamic education in the digital era.

Meanwhile, the study conducted by Amhag (Amhag, Hellström, & Stigmar, 2019) highlighted the importance of developing digital training programs tailored to the needs of lecturers in higher education. The research underlined that the use of digital tools by teacher educators still required better integration, not merely as supportive media but as an essential part of lesson planning, classroom delivery, and learning evaluation. Accordingly, context-specific and well-designed digital training programs are essential to enhance pedagogical competence among lecturers while at

the same time reinforcing the effective use of digital technologies in teaching and learning processes in universities.

Previous studies highlight the urgent need for teachers to develop valid and measurable digital competencies. However, these findings also reveal a broader issue that directly aligns with the focus of this study: the intersection between teacher competence, the digital era, Fiqh-based educational principles, and the strengthening of religious moderation. In today's digital age, teachers are expected not only to master technological tools but also to employ them in ways that uphold Islamic legal-ethical guidelines while promoting balanced, tolerant, and non-extremist religious understanding.

This context underscores the importance of establishing reliable assessment instruments for evaluating digital teacher competence, grounded in credible literature and informed by Fiqh-based considerations. Such instruments ensure that teaching practices remain pedagogically relevant, ethically sound, and responsive to students' needs in an environment where digital information significantly shapes religious authority and interpretation. Teachers equipped with measurable, value-oriented digital competence are better positioned to integrate technology responsibly, enhance learning interactions, and cultivate religious moderation through informed, contextual, and inclusive instruction.

METHODS

To ensure alignment between the scope of this study and its title, this SLR is designed not only to examine the digital competence of Islamic Education teachers, but also to thematically integrate three key dimensions: the pesantren educational ecosystem, Fiqh-based considerations in competency assessment, and religious moderation as an analytical orientation. Accordingly, the literature selection process was guided by a broader conceptual framework that systematically mapped studies on teacher digital competence, pesantren pedagogical contexts, Islamic legal-ethical principles, and religious moderation. This approach makes clear that the present SLR is not a purely technical review of digital skills, but a thematic synthesis that connects technological competence with Islamic jurisprudential values and the promotion of moderate religious understanding.

In applying the PICOS framework, the “Intervention” and “Outcome” components were explicitly linked to the study’s central themes. The Intervention dimension includes integrating Fiqh-based parameters into the evaluation of teacher competence, while the Outcome dimension captures indicators of religious moderation reflected in digital pedagogical practices. This mapping ensures that the review questions remain consistent with the study’s objective to explore how digital literacy, Fiqh-based assessment, and religious moderation intersect within the pesantren context. This thematic orientation ensures that the reviewed literature not only addresses digital competence but also offers conceptual relevance to the pesantren context and Islamic legal-ethical values, enabling the synthesis to generate findings that align with the study’s focus on Fiqh-based assessment and the promotion of religious moderation.

Several previous research studies discuss themes related to the role of teachers' digital competencies, including:

Table 1. Previous Research

Year	Author	Substance of Research Study
2020	Fallon G	Title: From digital literacy to digital competence: the teacher digital competency (TDC) framework. This study examines TDC, comprising five main domains: Pedagogical Knowledge, Content Knowledge, Technology and Digital Skills, Evaluation Knowledge, and Attitudes and Values. The TDC framework, comprising these five domains, offers a holistic approach to understanding and developing teachers' digital competencies (Falloon, 2020).
2021	Yusuf A & Kusaeri	Title: Detection of potential errors in measurement results of madrasa admission instruments in Indonesia. This research study focuses on improving the quality of madrasah entrance test instruments to ensure accurate test results and an accurate description of students' abilities. This study provides sufficient insight into the research to be carried out on the importance of measurable digital teacher competency assessment instruments, serving as a starting point for determining steps to develop teachers' digital potential and skills in the era of innovation (Joseph et al., 2021).

2022	Bearman M et al.	Title: Designing Assessment in A Digital World: An Organizing Framework. The framework in this study offers considerations for the design of assessment and feedback for each educational objective. In addition, the framework offers analytical tools for researchers to understand the role of digital technology in assessment (Bearman et al., 2023).
2023	Undheim & Ploog	Title: Digital Competence and Digital Technology: A Curriculum Analysis of Norwegian Early Childhood Teacher Education. This study discusses the early childhood education curriculum in Norway and argues that it needs to be strengthened by developing pedagogical skills to integrate digital technology into learning. Especially at the digital competency assessment stage, which needs to be changed to focus on skills and applications (not just knowledge and understanding) (Undheim & Ploog, 2023)
2024	Mahsusi et al.	Title: Achieving Excellence: The Role of Digital Transformation in Madrasah Management and Islamic Culture. This research study focuses on digital transformation that can help madrasahs in achieving excellence in Islamic management and culture. Madrasahs need to adopt successful management best practices and utilize digital technologies to improve the efficiency of learning administration and develop the curriculum. This study provides an overview of the research that will be carried out to adopt best practices in measuring teachers' digital competence in the era of innovation (Mahsusi Et al., 2024)

The table above presents a synthesis of previous studies related to the digital competence of IRE teachers. While these studies provide valuable insights into existing challenges and emerging trends in the field, they also reveal several gaps and untapped potential that warrant further investigation. These research gaps highlight the need for more comprehensive, context-sensitive, and longitudinal studies that can deepen understanding, refine existing frameworks, and support the development of more effective strategies for enhancing teachers' digital competence in the evolving technological and educational landscape.

There are four phases in mapping the literature: identification, screening, eligibility, and inclusion.

Phase 1: Identification Phase

Determination of articles that meet the set criteria. First, the database sources used for this systematic literature review are ERIC, Taylor and Francis, and ScienceDirect. With the criteria for articles published between 2018 and 2024. Articles are identified by keywords based on the following three search engines:

Table 2. Keywords Used to Search for Relevant Articles

Database	Keywords
ERIC	Digital Competence of Islamic Education Teachers
Taylor & Francis	Digital Competence of Islamic Education Teachers
Springer	Digital Competence of Islamic Education Teachers

The table above shows that the keyword used to search for relevant articles is "Digital Competence of Islamic Education Teachers." The focus of this literature leads to the evaluation of research trends related to the Digital Competence of Islamic Education Teachers; 917 articles were identified from two relevant data sources. The next stage is to determine the criteria for articles to include and exclude from the focused theme according to the framework required for the review, as shown in Table 2.2

Table 3. Include and Exclude Criteria

Criteria Include	Exclude Criteria
Journal Articles	Book chapters, book, proceedings, review paper
Article published in 2018-2024	Unpublished articles between 2018 and 2024
Related Articles: Digital Competence of Islamic Education Teachers	Articles Not Related to Digital Competence of Islamic Education Teachers
English Articles	Articles that are not published in English.

The table above illustrates the articles selected for follow-up based on the inclusion and exclusion criteria determined.

Phase 2: Screening Phase

The literature results from the three databases are filtered in Zotero to remove duplicate-identified articles. Next is the title and abstract screening process, which involves mapping articles based on titles and abstracts. Titles are filtered based on relevance and keyword matches. Then, abstracts from each article are filtered and scanned according to the set inclusion and exclusion criteria.

Phase 3: Eligibility Phase

At this stage, the article is analyzed and checked for feasibility using Zotero. After the article is identified as feasible, the full text can be downloaded, and the articles that fall under the exclusion criteria can be separated. In this phase, the article deemed feasible will provide answers to the research questions.

Phase 4: Extraction Phase

After checking the eligibility of the article based on the inclusion and exclusion criteria, articles that are eligible for inclusion criteria will be extracted and analyzed according to the statements that will be used as guidelines in the review, namely Participant, Intervention, Comparison conditions, Outcomes, Studies (PICOS). The determination of the stats on the extraction process depends on the expected tendency in the research question. In the data extraction process, a manual model based on PICOS criteria was used, and the quality of the extracted literature was assessed. The following is the process of searching for articles using the PRISMA flowchart:

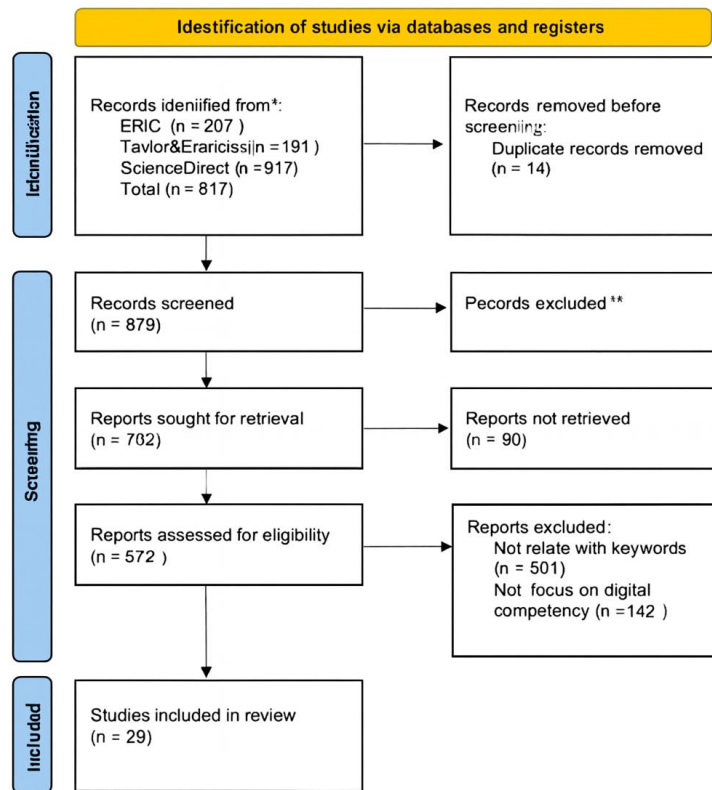


Figure 1. PRISMA flowchart

Figure 1. PRISMA Method

RESULTS AND DISCUSSION

Article Mapping on Digital Competence of Islamic Education Teachers

The systematic literature review reveals that existing studies on the digital competence of Islamic Education teachers primarily concentrate on foundational technological skills, digital pedagogical practices, and teachers' readiness to integrate ICT into instructional activities. Despite the growing significance of digital literacy, research remains limited, particularly within pesantren educational contexts, leaving unexplored how traditional Islamic learning environments adapt to technological shifts. The literature further underscores that measurable digital competence serves a crucial role in ensuring effective teaching and assessment in the digital era. Teachers equipped with clearly defined and assessable digital skills are better positioned to design adaptive learning experiences, foster meaningful student engagement, and implement differentiated instructional strategies that address diverse learner needs. Reliable indicators of digital competence, therefore, become essential, especially in Islamic Religious Education, where digital practices must remain pedagogically sound and ethically aligned with Islamic values.

In addition, the findings highlight the importance of incorporating Fiqh-based principles into the assessment of teacher digital competence. Normative concepts such as *maslahah*, *ijtihad*, *amanah*, and the careful application of legal-ethical guidelines provide a framework for ensuring that technological integration supports educational integrity while preventing misuse or exposure to inappropriate digital content. This Fiqh-based orientation broadens the understanding of digital competence from mere technical proficiency to a jurisprudential and ethical responsibility. However, the literature indicates that established frameworks for Fiqh-based digital competency assessment are largely absent, signaling a significant gap that this study seeks to address.

The review also demonstrates that digital competence contributes substantially to the strengthening of religious moderation. Teachers with strong digital literacy are better equipped to navigate the vast landscape of online religious information, counteract extremist or misleading content, and guide students toward balanced, contextual, and tolerant interpretations of Islamic teachings. By selecting credible sources, modeling responsible digital behavior, and encouraging critical

engagement with online materials, teachers play a transformative role in promoting *tawassuth*, *tasamuh*, and *ta'adul*, the core values of religious moderation. Thus, digital competence emerges not only as a pedagogical necessity but also as a strategic instrument for cultivating moderate and inclusive religious perspectives within Islamic educational settings.

From the ERIC, Taylor & Francis, and ScienceDirect databases, there are 917 records for the keyword "*Digital Competence of Islamic Education Teachers*". After identification using Zotero software, 29 articles met the inclusion criteria and the set conditions. The mapping of 29 articles will be elaborated based on the year of publication, author, title, publication, and Scopus accreditation. Furthermore, it will be mapped in a discussion that addresses the research questions (RQs): the measured digital competence of Islamic Religious Education teachers (RQ1) and the implications of measured teachers' digital competence for good assessment-based Fiqh insights (RQ2). This table contains articles that fall under the inclusion criteria:

Table 4. 29 Articles Include

No	Search Engine	Article Title	Year
1	ERIC	Perceptions of digital competence in learning and teaching English in the context of online education	2023
2	Taylor & Francis	Reason for political and religious moderation in the book of Ghiyāth al-Umam by al-Juwaynī and its contemporary Southeast Asian context	2025
3	Taylor & Francis	Theological discourse of jihad operations of terrorist actions in Indonesia	2025
4	ERIC	Digital competences of teachers in Lebanon: a comparison of teachers' competences to educational standards	2024
5	ERIC	Relationship between Professionalism Levels and Pedagogical Digital Competencies of Pre-Service Elementary School Teachers	2022
6	ERIC	Assessment of Digital Competencies of Teacher Educators with the DigCompEdu Framework	2023
7	ERIC	Assessing the Second-Level Digital Divide in Austria: A Representative Study on Demographic Differences in Digital Competences	2023
8	ERIC	Development of Digital Competence of Future Philologists: Case of Turkish and Ukrainian Universities	2023

9	ERIC	Definition of a self-reflection tool named Aurora for the assessment of university professors' digital competence	2023
10	ERIC	Determining the Digital Literacy Levels of Primary School Teachers	2023
11	ERIC	Analysis of Self-Perceived Digital Competencies in Future Educators: A Study at The University of Granada	2023
12	ERIC	Digital competences of teachers in Lebanon: a comparison of teachers' competences to educational standards	2024
13	Taylor & Francis	Determining factors influencing teachers' intention to use web-based e-learning platforms in vocational secondary schools in Indonesia	2024
14	Taylor & Francis	Digital divide framework: online learning in developing countries during the COVID-19 lockdown	2022
15	Taylor & Francis	Digital skills recruitment challenges in small enterprises: the role of blockchain	2023
16	Taylor & Francis	'We have- we had a digital debt': a case of digitalized school leadership practice	2024
17	Taylor & Francis	On the Inter-Relationships Between Teachers, Technologies, and Children in Makerspace Environments: A Comparative Case Study in Kindergarten Classrooms	2023
18	Taylor & Francis	Revolutionizing pedagogy: navigating the integration of technology in higher education for teacher learning and performance enhancement	2024
19	Taylor & Francis	Strengthening digital inclusion through e-government: cohesive ICT training programs to intensify digital competency	2020
20	Taylor & Francis	Surviving or thriving? Exploring school leaders' perception of initiated digital transformation	2023
21	Taylor & Francis	A best-evidence meta-analysis of the effects of digital monitoring tools for teachers on student achievement	2022
22	Taylor & Francis	Achieving excellence: the role of digital transformation in <i>madrasah</i> management and Islamic culture	2024
23	Taylor & Francis	Construct overlap in cross-national assessment: critical thinking in the teacher education curricula of two countries	2021
24	Taylor & Francis	Designing assessment in a digital world: an organizing framework	2019
25	Taylor & Francis	Digital competence and digital technology: a curriculum analysis of Norwegian early childhood teacher education	2018

26	ScienceDirect	Digital competency mapping dataset of pre-service teachers in Indonesia	2023
27	ScienceDirect	Early and late adopter effects between schools in a one-to-one computer initiative	2018
28	ScienceDirect	Evaluate and identify the competencies of the future workforce for the implementation of digital technologies implementation in higher education	2023
29	ScienceDirect	Exploring pre-service teachers' intention to use virtual reality: A mixed-method approach	2023
30	ScienceDirect	A systematic review and framework for digital leadership research maturity in higher education	2022
31	ScienceDirect	Digital communication activities and EFL learners' willingness to communicate and engagement: Exploring the intermediate language learners' perceptions	2019

Based on data from three article sources, it can be observed that in 2018, two articles were published. The exact number of articles, namely two articles, was also recorded in 2019. Then, in 2020 and 2021, there was 1 article each. A significant increase was seen in 2022, with four articles published. This trend continued with a massive surge in 2023, when 13 articles were published. In 2024, the number of articles decreased slightly to 6 articles. In 2025, the number of articles decreased slightly to 2 articles, as shown in the diagram below:

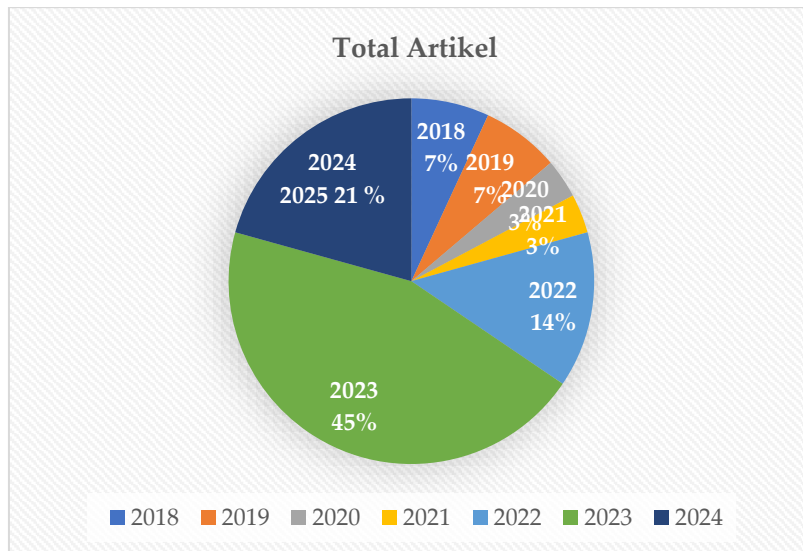


Figure 2. Mapping the number of articles published in 2018-2024

The distribution of these articles' journal rankings is diverse. Articles published in Q1-ranked journals totaled nine articles. The Q2-ranked journal dominated with 13 articles. Meanwhile, there are two articles published in Q3 journals and five in Q4 journals. This data reflects the variation in the quality and reputation of the journals in which the articles are published. Simpler can be seen in the following diagram:

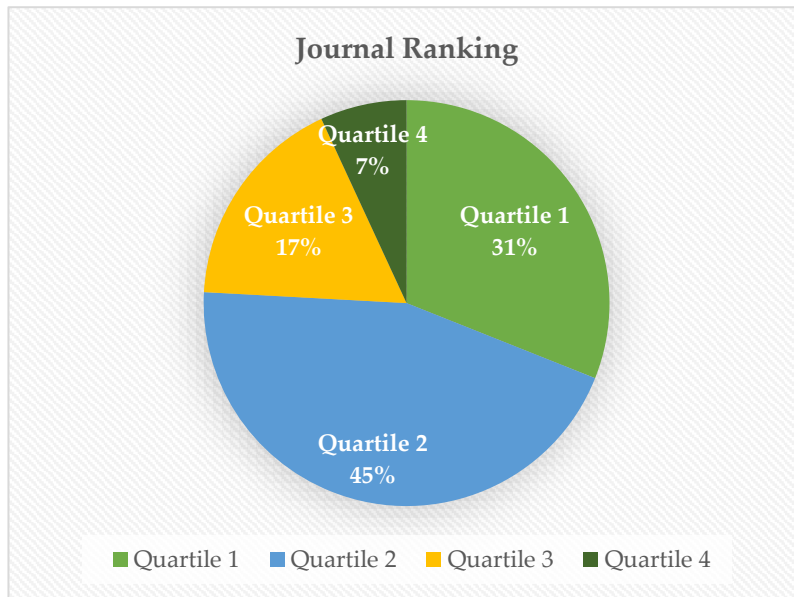


Figure 3. Ranking mapping of published articles in 2018-2024

Trend Articles on Digital Competence of Islamic Education Teachers (2018-2025)

Recent trends in scholarly publications from 2018 to 2025 show an increasing focus on the digital competence of Islamic Education teachers, reflecting the broader transformation of Islamic educational institutions, including pesantren, toward digital-based learning ecosystems. These studies consistently highlight the rising need for teachers to adapt to technology-enhanced instruction, not only to improve pedagogical quality but also to navigate the digital circulation of religious knowledge. In the context of pesantren, this trend is particularly relevant as many institutions are gradually integrating digital platforms to support the teaching of Fiqh, kitab Turath, and other Islamic sciences. The literature, therefore, provides a valuable baseline for understanding how prepared pesantren teachers are for digital transformation and the gaps that remain in their professional readiness, ethical digital engagement, and capacity to filter online religious information responsibly.

Research on the Digital Competence of Islamic Education Teachers from 2018 to 2024 shows an interesting trend. At first, interest in this topic was still low, with only two articles published in 2018 and 2019. The number of articles remained low in 2020 and 2021, with 1 article each. However, in 2022, there was an increase of 4 articles. This trend peaked in 2023 with 13 articles, signaling a growing concern for digital competencies among Islamic education teachers. In 2024, 6 articles show strong interest. These articles were published in various journals, with 9 in Q1, 13 in Q2, 2 in Q3, and 5 in Q4.

The trend in research studies on the Digital Competence of Islamic Education Teachers from 2018 to 2024 is shown in Table 3.2.

Table 5. Substance Focus Every Year

No	Year	Study
1	2018	Schools that adopt technology in early learning tend to see increased achievement in the learning process, and teachers must undergo training to understand the role of technology in learning.
2	2019	An organized framework to assist educators in developing effective assessment methods in a digital learning environment. The framework includes key principles such as clarity of assessment objectives, proper technology integration, and adaptability to a wide range of student needs. Activities such as online discussions, chatting, and social media use help students feel more comfortable and motivated to improve their language skills.
3	2020	Structured, comprehensive training through E-Government applications can significantly improve teachers' digital skills, thanks to the relevant assessment features.
4	2021	There is a need for a more harmonized approach and clearer assessment standards to ensure that critical thinking skills are taught and assessed effectively across countries.
5	2022	There are four focuses of the study, including: First, the maturity of digital leadership in higher education. Second, the positive effect of digital monitoring tools for teachers on student achievement. Third, the digital divide in online learning in developing countries during the COVID-19 pandemic. Fourth, the relationship between professionalism and pedagogical digital competence among prospective elementary school teachers. Overall, this study highlights the important roles of leadership, digital tools, access to technology, and digital competencies in education.
6	2023	The 2023 research trends examine various aspects of educators' and students' digital competence, as well as challenges in

-
- implementing digital technology. These studies include evaluating educators' digital competencies using DigCompEdu, examining differences in digital competencies by demographics in Austria, developing digital competencies in Turkish and Ukrainian universities, and developing self-reflection tools to assess professors' digital competencies. In addition, the study assesses the digital literacy of primary school teachers, the perceptions of prospective educators regarding digital competencies at the University of Granada, and the challenges of recruiting digital skills in small companies.
- 7 2024 The 2024 research trends include: First, the role of digital transformation in madrasah management and Islamic culture to achieve excellence. Second, a case study of digitized school leadership practices regarding the challenges faced in their implementation. Third, a comparison of teachers' digital competencies in Lebanon with existing education standards. Finally, the factors that influence teachers' intention to use web-based e-learning platforms in vocational high schools in Indonesia
-

The Role of Measurable Digital Competence in Learning and Assessment in the Digital Era

The reviewed literature demonstrates that measurable digital competence is essential for ensuring effective learning and assessment practices in the digital era, especially within IRE. Teachers who possess clearly defined and assessable digital skills are better equipped to design interactive learning activities, facilitate differentiated instruction, and accurately monitor student progress through digital platforms. In pesantren settings, measurable competence plays an even more critical role, as it ensures that digital tools are used in accordance with Islamic ethical principles and Fiqh-based considerations. Teachers with demonstrable digital proficiency can curate reliable religious resources, mitigate exposure to extremist or misleading online content, and guide students toward balanced, contextual, and moderate interpretations of Islamic teachings. Thus, measurable digital competence becomes a determining factor not only for pedagogical effectiveness but also for safeguarding the integrity of religious learning and strengthening religious moderation in the digital space.

The role of measurable digital competencies in learning and assessment has been the primary focus of research studies from 2018 to 2025. Along with

technological advancements, education faces new challenges in preparing students to face an increasingly complex digital world. Research from this period highlights how teachers and educational institutions are integrating digital competencies in their curriculum and learning processes. Studies have shown that teachers with strong digital competence are better able to manage learning effectively by leveraging available technologies, such as e-learning platforms, interactive multimedia, and other digital tools (Chohan & Hu, 2022). This research study also identifies that teachers' digital competence is not only technical ability but also includes the skills to teach effectively using technology. Teachers with digital competencies can create a more engaging learning environment and interact with students more effectively. They can use digital tools to assess students' progress and provide timely feedback, thereby improving the quality of teaching and learning (Dwivedi et al., 2022).

Research also shows that digital competencies are important not only for teachers but also for school management and education administration. Schools that integrate technology well into their administration tend to be more efficient in managing student data, communicating with parents, and developing curricula responsive to technological developments. This helps create a learning environment that is connected and adaptive to change (Squirt & Levy, 2023).

However, the challenges faced in adopting digital competencies cannot be ignored. Some research indicates that not all teachers or educational institutions have equal access to the technology and resources needed to develop their digital competencies. This can create a quality-of-education gap between regions with good access to technology and those without (Mahsusi et al., 2024; Willermark et al., 2023).

Fiqh Perspectives on Digital Competence for Islamic Religious Education Teachers

From an Islamic jurisprudential perspective, the integration of digital technologies in PAI education must be grounded in the fundamental principles of Shari'ah, particularly the concept of *maslaha* (public interest) and the preservation of the five essential values (*maqasid al-shariah*): religion (*din*), life (*nafs*), intellect (*'aql*), lineage (*nasl*), and wealth (*mal*) (Abubakari et al., 2023). Contemporary Islamic

scholars emphasize that digital competence for Islamic Religious Education teachers is not merely a technical necessity but represents a form of *amanah* (trust) and *khalifah* (stewardship) in the educational context.

The Fiqh framework supports the argument that Islamic Religious Education teachers must develop digital competencies as part of their professional obligation (*wajib kifayah*) to transmit Islamic knowledge effectively. This aligns with the prophetic tradition that states "seek knowledge even in China," which Islamic scholars interpret as an endorsement of utilizing appropriate means and technologies to acquire and disseminate knowledge (Abubakari & Priyanto, 2021). The principle of *la darar wa la dirar* (no harm and no reciprocal harm) requires that Islamic Religious Education teachers ensure digital technologies are used in ways that protect students from harmful content while enhancing their spiritual and intellectual development.

Contemporary Islamic jurisprudence also addresses the ethical dimensions of digital technology use in education through the lens of *Adab* (proper conduct) and *Akhlaq* (character). Islamic Religious Education teachers are expected to demonstrate digital *Adab* by modeling appropriate online behavior, protecting student privacy (*hifz al-'awrah*), and ensuring that digital interactions maintain the dignity and respect required in Islamic educational settings (Suyadi et al., 2020; Miskiah et al., 2019). The Fiqh principle of *dar' al-mafasid muqaddamun 'ala jalb al-masalih* (preventing harm takes precedence over bringing benefit) necessitates that Islamic Religious Education teachers develop competencies in digital safety and cyber-ethics to protect their students from online predators, inappropriate content, and digital addiction.

Furthermore, Islamic jurisprudence recognizes the transformative potential of digital technologies when applied within the framework of *Tawhid* (divine unity) and *Wasatiyyah* (moderation) (Ifrak et al., 2025). The integration of artificial intelligence, virtual reality, and other emerging technologies in Islamic education is permissible (*mubah*) and even recommended (*mustahabb*) when these tools enhance students' understanding of Quranic teachings, hadith studies, and Islamic history without contradicting fundamental Islamic beliefs (Islam, 2021). The principle of *Istihsan* (juristic preference) allows for innovative digital pedagogical approaches

that serve the greater good of Islamic education, provided they remain within the bounds of Shari'ah compliance.

Digital competencies also enable Islamic Religious Education teachers to provide access to broader and up-to-date sources of information on Islamic religious studies, history, moral values, and worship practices. Thus, students can learn more deeply and understand the content of Islamic Religious Education more thoroughly. Teachers who are skilled in digital competencies can also provide more in-depth and personalized feedback to their students through a variety of digital media, such as online discussions, formative assessments, and direct communication (Mahsusi et al., 2024b).

Contemporary Challenges and Fiqh-Based Solutions

Recent international research highlights several challenges in implementing digital competencies within Islamic educational contexts that require Fiqh-based solutions. The Technology Acceptance Model in Islamic Education (TAMISE) framework demonstrates that a religious perspective significantly influences Islamic Religious Education teachers' willingness to adopt digital technologies, with $T=2.428$ and $P<0.05$ (Abubakari et al., 2023). This finding emphasizes the importance of aligning digital competency development with Islamic pedagogical principles.

The Fiqh concept of *Ta'lim* (education) and *Tarbiyah* (cultivation) provides a comprehensive framework for addressing digital divide issues in Islamic Religious Education. Islamic scholars argue that ensuring equitable access to digital technologies and training represents a collective obligation (*fard kifayah*) for the Muslim community, particularly educational institutions and policymakers. The principle of *Takhalluq bi Akhlaq Allah* (embodying divine characteristics) requires Islamic Religious Education teachers to demonstrate compassion, justice, and wisdom in their use of digital technologies, ensuring that no student is left behind due to technological barriers.

In the context of Islamic Religious Education, integrating technology into Islamic learning can help build a more connected learning community among students, teachers, and parents. Digital platforms can be used to share information about the curriculum, lesson schedules, and student learning progress in real-time.

This not only facilitates more effective communication among all parties involved in the educational process, but also enables parents to be more actively involved in supporting their child's religious learning.

Professional Development and Continuous Learning

The Islamic principle of *talab al-'ilm min al-mahd ila al-lahd* (seeking knowledge from cradle to grave) mandates that PAI teachers engage in continuous professional development to maintain their digital competencies. Contemporary Fiqh scholars emphasize that this obligation extends beyond basic technological skills to include understanding the ethical implications of digital technologies, their impact on student development, and their role in preserving and transmitting Islamic values across generations (Alindra et al., 2022).

However, the challenges faced in integrating digital competencies in Islamic Religious learning also need to be considered from a Fiqh perspective (Abdul, Kholil, Abdullah, & ..., 2020). Not all schools or teachers have equal access to the necessary technology or adequate training in its use in the context of religious education. The Islamic principle of *la yukallifu Allah nafsan illa wus'aha* (Allah does not burden a soul beyond its capacity) suggests that implementation of digital competencies should be gradual and considerate of local contexts and capabilities. Therefore, it is important to develop comprehensive training and technical support programs for Islamic Religious Education teachers to enhance their digital competence and optimize the benefits of technology in Islamic religious learning, while ensuring alignment with Islamic pedagogical principles and values.

Implications of Measurable Digital Competence in Learning and Assessment in the Digital Era

A critical analysis of the implications of teachers' roles in measuring digital competencies for learning and assessment in the digital era, drawing on literature published from 2018 to 2024, reveals several important findings. First, technological advancements have significantly changed the educational landscape. Teachers with strong digital competencies tend to be better prepared to integrate digital technology into their teaching practices (Culver, Bowman, & Pascarella, 2021). They can use digital tools such as e-learning platforms, interactive learning applications, and

multimedia to facilitate more dynamic and inclusive learning (Momdjian et al., 2024).

However, there are challenges to be overcome in developing this digital competence. Not all teachers have adequate access or skills to integrate technology well into their learning process. Studies show that inadequate training and insufficient support from educational institutions can hinder the effective implementation of technology in teaching. Therefore, investing in continuous training and technical support for teachers is essential to improve their digital competence (Kassymova et al., 2023).

Fiqh-Based Framework for Digital Assessment and Evaluation

From an Islamic jurisprudential perspective, the application of digital competencies in educational assessment must be grounded in the principles of *'adl* (justice), *amanah* (trustworthiness), and *hikmah* (wisdom). Contemporary research on digital alternative assessment among Islamic Education Teachers (IET) in primary schools demonstrates that the implementation of technology-based evaluation systems must align with the Malaysian Education Development Plan 2013-2025, which emphasizes improving teaching quality through enhanced teacher competencies. This approach resonates with the Islamic principle that assessment should serve the purpose of *taqwim* (constructive evaluation) rather than mere judgment.

The application of digital competencies also affects educational evaluation and assessment. Teachers skilled in digital technology can use these tools to assess student progress more objectively and quantifiably. They can adopt technology-based assessment methods such as online exams, digital portfolio-based assessments, and ongoing formative evaluations. This not only helps provide more timely feedback to students but also allows for curriculum adaptation and teaching approaches based on digitally collected learning outcome data (Singh & Delicate, 2022; Laughs et al., 2024).

Islamic Ethical Framework for Digital Privacy and Data Security

In addition, integrating technology into learning also opens up opportunities for wider collaboration and collaborative learning. Teachers and students can work together in a virtual environment to share ideas, collaborate on projects, and learn

together. This encourages project-based learning and the development of social and collaborative skills that are important in today's digital world (Hidayat et al., 2023). However, attention needs to be paid to data privacy and security issues in the use of technology in education from an Islamic ethical perspective. Islamic perspectives on cybersecurity and data privacy emphasize that privacy (*hifz al-'awrah*) is characterized by boundaries, ownership, and moral principles that guarantee individuals' right to use their property or information without hindrance. Along with the vast advantages of technology integration, the risks to student privacy and data security are also increasing.

From an Islamic medical ethics perspective, which equally applies to educational ethics, the principles of autonomy, beneficence, non-maleficence, and justice must guide digital health and educational technologies. It is important to implement strict policies and secure technology to protect students' personal information and educational data from potential cyber threats, ensuring that such measures align with the Islamic principle of *la darar wa la dirar* (no harm and no reciprocal harm) (Korkmaz & Akçay, 2024).

Inclusive Education Through an Islamic Lens: Addressing Digital Divides

The use of technology in learning also presents challenges in creating an inclusive learning experience for all students from an Islamic educational perspective (Schmid, Pauli, Stebler, Reusser, & Petko, 2022). Research on inclusive education in Islamic educational contexts reveals that digital technology supports inclusivity in community-based Islamic education, with studies showing that hybrid learning approaches enhance accessibility and flexibility while strengthening interaction and interpersonal relationships. Not all students have equal access to the technology or skills necessary to learn independently using digital tools.

The Technology Acceptance Model in Islamic Education (TAMISE) framework demonstrates the importance of creating inclusive and equitable digital education environments, with findings indicating that religious perspective ($T=3.636$; $P<0.001$) significantly influences behavior intention to use ICT in Islamic educational settings. Therefore, it is important to ensure that the technology used in education is accessible to all students, including those with special needs or different

skill levels, aligning with the Islamic principle of *Rahmatan lil 'alamin* (mercy for all the worlds) (São Paulo et al., 2024; Venkatachalam & Kannusamy, 2023).

Contemporary Fiqh Perspectives on Digital Equity and Accessibility

Contemporary Islamic education research emphasizes that digital technology should support inclusion by bridging access gaps to quality education across diverse socio-economic and geographic contexts. This approach resonates with the Islamic concept of *takafful* (social solidarity) and *ta'awun* (mutual assistance), which mandate that the Muslim community ensure equitable access to knowledge and educational opportunities for all members (Armia, 2018).

Modern research on inclusive education through technology demonstrates that these technologies enhance accessibility and customization of learning, facilitating the integration of students from diverse sociocultural backgrounds. However, they face challenges such as resource scarcity and the need for adequate teacher training, which, from a Fiqh perspective, represents a collective obligation (*fard kifayah*) for educational institutions and policymakers to address (Jenkins, 2020).

Professional Development and Continuous Learning in an Islamic Context

The Islamic principle of *talab al-'ilm faridatun 'ala kulli muslimin wa muslimatin* (seeking knowledge is obligatory for every Muslim man and woman) extends to digital competency development for Islamic education teachers. Research on teacher personality ethics in Islamic educational philosophy emphasizes that educators must understand their character and personality, as these become competencies in building and educating students through exemplary behavior and authority that emanates from their character (Jubba, Awang, Qodir, Hannani, & Pabbajah, 2022).

Islamic perspectives on ICT emphasize that technology should include not only hardware and software but also "peopleware" and "heartware," making ethical considerations central to any technological decision in educational contexts. This holistic approach requires PAI teachers to develop not only technical digital skills but also the wisdom (*hikmah*) to apply these technologies in ways that promote both spiritual and intellectual development (Llorent-Bedmar, Palma, & ..., 2020).

Sustainable Digital Education Framework

Contemporary Islamic ethics scholars emphasize that digital technologies must be approached with critical curation rather than passive acceptance, underscoring the need to assess their wider pedagogical, ethical, and social implications. This view resonates with the Islamic principle of *Istislah* (public interest) as a guiding framework for determining responsible technological use in Islamic education. While previous studies highlight the importance of safeguarding ethical conduct in digital spaces, they rarely connect these concerns to how digital competence can actively contribute to balanced, inclusive, and moderation-oriented Islamic instruction.

Recent discussions on Islamic digital ethics emphasize the need for strategic foundations to strengthen safety, accountability, and collaborative digital citizenship. For teachers of Islamic education, this extends beyond merely improving pedagogical effectiveness; it involves cultivating the digital literacy required to guide students toward tolerant, context-aware religious understanding within online environments. By linking digital skills to digital pedagogy and, ultimately, to the promotion of religious moderation, the current study addresses a gap in the literature, offering insight into how digital platforms can be used not only ethically but also constructively to reinforce moderation-centered Islamic values.

CONCLUSION

This systematic review demonstrates that digital competence among Islamic Religious Education (IRE) teachers is increasingly recognized in the literature as a foundational requirement for effective digital pedagogy. While several studies discuss Islamic schools and higher education, only a limited number explicitly focus on pesantren, and those that do tend to highlight the unique pedagogical culture rooted in discipline, adab, and traditional authority structures. These characteristics distinguish pesantren from other Islamic educational institutions and shape their slower technological adoption, particularly due to infrastructural disparities and the prioritization of face-to-face transmission of values. Within this context, the review finds consistent evidence that digital competence, especially skills in content creation,

critical digital literacy, and ethical navigation, supports teachers in delivering Islamic learning that is both pedagogically adaptive and value-conscious.

Although the reviewed studies do not uniformly frame digital competence in relation to religious moderation, several provide indirect pathways showing how digital literacy can foster *wasatiyyah* values. These include the ability to critically evaluate online religious content, guide students in avoiding misinformation and ideological bias, and model balanced digital engagement grounded in principles such as *amanah*, *'adl*, and *maslahah*. The literature also notes that digital platforms can expand students' exposure to diverse perspectives, which, when pedagogically mediated, can help reduce exclusivist tendencies. Nevertheless, the extent to which these mechanisms directly strengthen moderation remains underexplored, indicating that moderation-oriented digital pedagogy is more an emergent implication than a fully established empirical pattern.

The limitations identified in this review reflect patterns explicitly reported across studies. Common challenges include unequal access to infrastructure, insufficient training tailored to Islamic educational contexts, and persistent concerns about privacy, *adab*, and the moral integrity of digital environments. Importantly, few studies employ standardized instruments for assessing digital competence, and even fewer develop tools specific to pesantren's cultural and instructional realities. These gaps suggest that future research should prioritize context-sensitive models of digital competence that integrate technological, pedagogical, and moral dimensions, particularly frameworks that articulate how digital skills and ethical digital engagement can more explicitly support the strengthening of religious moderation within Islamic education and pesantren settings.

REFERENCES

- Abdul, M., Kholil, L. R., Abdullah, I., & ... (2020). Development of Islamic education (PAI) curriculum based on anti-corruption fiqh. *International Journal* ... eprints.uinsaizu.ac.id. Retrieved from <https://eprints.uinsaizu.ac.id/7248/1/IJPR> Vol. 24 Issue 3 Februari 2020-Scopus Q4 Development of Islamic Education %28PAI%29 Curriculum based on Anti-Corruption Fiqh.pdf
- Amhag, L., Hellström, L., & Stigmar, M. (2019). Teacher Educators' Use of Digital Tools and Needs for Digital Competence in Higher Education. *Journal of Digital*

- Learning in Teacher Education*, 35(4), 203–220.
<https://doi.org/10.1080/21532974.2019.1646169>
- Amrin, A., Asiah, S., Al-Qosimi, M. M., & ... (2022). New Normal and Islamic Education: Islamic Religious Education Strategy On Educational Institutions in Indonesia. *Jurnal ...* Retrieved from <http://journal.universitaspahlawan.ac.id/index.php/jpdk/article/view/4271>
- Ardiç, M. A. (2021). Three Internal Barriers to Technology Integration in Education: Opinion, Attitude, and Self-Confidence. *Shanlax International Journal of Education*, 9, 81–96. Retrieved from <https://eric.ed.gov/?id=EJ1297349>
- Armia, M. S. (2018). Implementing Islamic Constitutionalism: How Islamic Is Indonesia's Constitution? *Al-'Adalah*. Retrieved from <http://www.ejournal.radenintan.ac.id/index.php/adalah/article/view/3389>
- Bastian, A., Nasution, J. A., & Wahyuni, S. (2022). Teacher Performance Under the Influence of Training, Work Motivation, and Teacher Competence. *AL-ISHLAH: Jurnal Pendidikan*, 14(3), 3601–3612.
<https://doi.org/10.35445/alishlah.v14i3.2189>
- Bearman, M., Nieminen, J. H., & Ajjawi, R. (2023). Designing assessment in a digital world: an organising framework. *Assessment and Evaluation in Higher Education*, 48(3), 291–304. <https://doi.org/10.1080/02602938.2022.2069674>
- Culver, K. C., Bowman, N. A., & Pascarella, E. T. (2021). How Students' Intellectual Orientations and Cognitive Reasoning Abilities and May Shape Their Perceptions of Good Teaching Practices. *Research in Higher Education*, 62(6), 765–788. <https://doi.org/10.1007/s11162-021-09625-z>
- Ebersole, L. (2019). Preservice Teacher Experience with Technology Integration: How the Preservice Teacher's Efficacy in Technology Integration Is Impacted by the Context of the Preservice Teacher Education Program. *International Dialogues on Education: Past and Present*, 6(2), 124–138. Retrieved from <https://eric.ed.gov/?id=EJ1245207>
- Falloon, G. (2020). From digital literacy to digital competence: the teacher digital competency (TDC) framework. *Educational Technology Research and Development*, 68(5), 2449–2472. <https://doi.org/10.1007/s11423-020-09767-4>
- Ifrak, K., Anggraeni, D., Jaeni, M., & Irfanullah, G. (2025). From Andalusia to Modern Europe: Tracing of Islamic Cultural Heritage and Its Educational Influence on Religious Moderation in Indonesia. *Edukasia Islamika*, 10(1), 145–162. <https://doi.org/10.28918/jei.v10i1.12488>
- Jenkins, W. (2020). *Islamic Law and Environmental Ethics: How Jurisprudence (Usul Al-Fiqh) Mobilizes Practical Reform*. Retrieved from www.brill.nl
- Jubba, H., Awang, J., Qodir, Z., Hannani, & Pabbajah, M. (2022). The contestation between conservative and moderate Muslims in promoting Islamic Moderatism in Indonesia. *Cogent Social Sciences*, 8(1). <https://doi.org/10.1080/23311886.2022.2116162>

- Kuraedah, S., Gunawan, F., Wekke, I. S., & ... (2018). Learning environment construction in Islamic higher education: Connecting the Puzzles of ideas. *IOP Conference Series* <https://doi.org/10.1088/1755-1315/175/1/012107>
- Llorent-Bedmar, V., Palma, V., & ... (2020). Islamic religion teacher training in Spain: Implications for preventing Islamic-inspired violent radicalism. ... *and Teacher Education*. Elsevier. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0742051X20313299>
- Lubis, Z. & Anggraeni, D. (2019). Paradigma Pendidikan Agama Islam di Era Globalisasi Menuju Pendidik Profesional. *Jurnal Online Studi Al-Qur'an*. <https://doi.org/10.21009/jsq.015.1.07>
- Lubis, R. R., Rambe, N., Azhar, P. C., & ... (2023). Development of Digital-Based Smart Card Learning Media to Improve the Learning Outcomes of Madrasah Ibtidaiyah Students. ... *Pendidikan Islam*. Retrieved from <https://ejournal.uinsalatiga.ac.id/index.php/mudarrisa/article/view/240>
- Mahsusi, Hudaa, S., Fahmi, M., Kusen, Haryanti, N. D., & Wajdi, M. B. N. (2024). Achieving excellence: the role of digital transformation in madrasah management and Islamic culture. *Cogent Arts and Humanities*, 11(1). <https://doi.org/10.1080/23311983.2024.2304407>
- Masuwai, A., Zulkifli, H., & Hamzah, M. I. (2024). Evaluation of content validity and face validity of the secondary school Islamic education teacher self-assessment instrument. *Cogent Education*, 11(1). <https://doi.org/10.1080/2331186X.2024.2308410>
- Méndez, D., Méndez, M., & Anguita, J. M. (2022). Digital Teaching Competence in Teacher Training as an Element to Attain SDG 4 of the 2030 Agenda. *Sustainability (Switzerland)*, 14(18). <https://doi.org/10.3390/su141811387>
- Munifah, M., Syamsul, H., Dina, H. U., & ... (2019). The Use of Management Strategies to Attract the Public's Interest in Pesantren: A New Model for Pesantren Dynamics Study. *International* Retrieved from <http://repository.iainkediri.ac.id/106/>
- Roofi, M. (2020). *Peran Guru Pendidikan Agama Islam dalam Mewujudkan Sekolah Ramah Anak di Sekolah Menengah Pertama Negeri 4 Malang*.
- Schmid, R., Pauli, C., Stebler, R., Reusser, K., & Petko, D. (2022). Implementation of technology-supported personalized learning—its impact on instructional quality. *Journal of Educational Research*, 115(3), 187–198. <https://doi.org/10.1080/00220671.2022.2089086>
- Solong, N. P., & Husin, L. (2020). Penerapan Kompetensi Kepribadian Guru Pai. *TA'DIBUNA: Jurnal Pendidikan Agama Islam*, 3(2), 57. <https://doi.org/10.30659/jpai.3.2.57-74>
- Undheim, M., & Ploog, M. (2023). Digital competence and digital technology: a curriculum analysis of Norwegian early childhood teacher education. *Scandinavian Journal of Educational Research*. <https://doi.org/10.1080/00313831.2023.2204109>

- Wahab, A. J., Ishom, M., Farida, A., Yani, Z., Kartini Savitaningrum Imansah, R., & Basori. (2025). Theological discourse of jihad operations of terrorism actions in Indonesia. *Cogent Social Sciences*, 11(1).
<https://doi.org/10.1080/23311886.2025.2538719>
- Widigdo, M. S. A., & Awang Pawi, A. A. (2023). "Reason" of political and religious moderation in the book of Ghiyāth al-Umam by al-Juwaynī and its contemporary Southeast Asian context. *Cogent Arts and Humanities*, 10(1).
<https://doi.org/10.1080/23311983.2023.2223815>.
- Yousif, Y. A. K. (2018). Assessing Islamic Education Teachers' Performance in Developing the 21st Century Skills for Secondary School. *International Interdisciplinary Journal of Education*. ijoe.org. Retrieved from https://www.ijoe.org/v7/IJJOE_10_04_07_2018.pdf
- Yusuf, A., Kusaeri, K., Hidayatullah, A., Novitasari, D. C. R., & Asyhar, A. H. (2021). Detection of potential errors in the measurement results of madrasa admission instruments in Indonesia. *International Journal of Evaluation and Research in Education*, 10(4), 1334–1343.
<https://doi.org/10.11591/IJERE.V10I4.21412>