

Challenges of Islamic Education Educators in the Use of Digital Technology During Teaching and Learning: A Systematic Literature Review

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ABSTRACT

The study aims to identify and systematically describe the challenges faced by Islamic education educators in using digital technology during teaching and learning, as well as the ways in which they overcome those challenges. The Systematic Literature Review (SLR) method was employed using the PRISMA 2020 approach. A total of ten articles published over the last ten years were analysed. The findings show that the main challenges faced by Islamic education educators include infrastructural constraints such as the lack of computer laboratories, multimedia rooms, and weak internet access, in addition to a moderate level of teacher readiness in mastering ICT skills. Nevertheless, Islamic education educators have adopted various strategies to address these challenges by improving their ICT competencies and using creative teaching approaches in virtual environments. This study is expected to serve as a reference for stakeholders and future researchers in strengthening the implementation of digital teaching and learning, particularly in the field of Islamic education.

Keywords: Systematic Literature Review, Islamic Education, Teaching and Learning, Digital Technology, Challenges of Islamic Education Educators

INTRODUCTION

In the advanced and rapidly developing era of the Fourth Industrial Revolution, digital technology has become an important tool in learning activities (Zabir 2018). In addition, the government has introduced the Digital Education Policy to produce a digitally fluent generation, enhance the competencies and professional development of stakeholders, and bridge the digital divide. The expansion of Information and Communication Technology (ICT) in education has shifted teaching and learning (T&L) from a conventional approach to e-learning and subsequently to mobile learning. Among the interactive materials applied in T&L are interactive CDs, music, videos, websites, and educational applications that can be accessed through smartphones and tablets (Norakyairee et al. 2019).

The use of media devices helps Islamic education educators diversify their teaching methods through more engaging video-based learning (Khadijah et al. 2020). According to Mazidah and Nor Aidawati (2021), this new learning approach requires electronic devices and internet access to enable students to access specific platforms such as Zoom, Google Classroom, Microsoft Teams, Webex, Telegram, and WhatsApp. Islamic education educators therefore need to improve their knowledge and skills in Information and Communication Technology (ICT), especially as their work culture changed throughout the Movement Control Order (MCO) period (Rahayu et al. 2020).

However, the use of digital technology during T&L also presents its own challenges. Several studies have identified major constraints in the use of digital technology during T&L. Norehan (2021) stated that the challenges faced by Islamic education educators in home-based teaching and learning (PdPR) are particularly high, especially in adapting to the use of technology. In addition, Kayalvili and Khairul (2022) explained that there are challenges related to changes in attitude when adapting to digital learning tools.

Adapting to technological change requires different periods of the time for each individual. Even when technical readiness can be addressed, individuals do not necessarily change within a predetermined time frame.

LITERATURE REVIEW

There are constraints related to communication, interaction and teachers' commitment in managing students during online learning. In terms of teacher-student communication, students often provide limited feedback when online teaching is conducted. This makes it difficult for teachers to determine the extent of students' understanding of the subjects taught, as more attention is given to implementing online classes without direct verbal communication with students (Hashim et al. 2020).

Syuhaidah and Mohd Isa (2019) stated that teachers face many obstacles in elevating the use of digital technology, including issues of support, time and technological facilities. In addition to readiness in terms of infrastructure such as gadgets and robust databases, the inculcation of moral values must also be strengthened. According to Nur Hidayah and Noor Banu (2021), many negative elements can be found in digital footprints during information sharing. A lack of students' etiquette has also been observed during online teaching and learning.

Therefore, this study was conducted to fill that gap through a systematic literature review (SLR) that critically organises and synthesises findings from various previous studies. This SLR aims to provide a comprehensive and evidence-based overview of the challenges faced by Islamic education educators in using digital technology during teaching and learning. The findings of this study are expected to contribute to strategies for Islamic education educators in overcoming the challenges of digital technology use during teaching and learning.

Research Questions

Specifically, the study seeks to:

1. What challenges are experienced by Islamic education educators in using digital technology during teaching and learning?
2. How do Islamic education educators overcome challenges in teaching and learning using digital technology?

METHODOLOGY

This study uses a Systematic Literature Review (SLR) approach to synthesise articles related to the challenges faced by Islamic education educators in using digital technology during teaching and learning (T&L). The review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) approach. This approach involves several key planned and systematic steps to ensure the accuracy, reliability, and relevance of the findings.

Article Search Strategy

The review process began with the selection of appropriate and credible databases in the fields of education and technology. Two main databases were used: Scopus and Google Scholar. Scopus is well known for publishing peer-reviewed articles with a high academic impact. Google Scholar, on the other hand, was used to broaden the search scope to a wider range of educational sources. The use of these two databases was intended to ensure that the study obtained valid, current, and relevant materials related to the research topic.

Article Selection Criteria

According to Xiao and Watson (2019), review studies that involve comparing a group of literature sources require a clear and detailed process for establishing article selection criteria. To obtain articles that matched the

requirements of this study, selection criteria were established based on the type of literature, language, publication year, indexation, and study focus, as shown in Table 1.

Table 1. Article Selection Criteria

Criterion	Inclusion	Exclusion
Type of literature	Journal articles and conference papers	Dissertations, theses, books, non-academic articles, and literature reviews
Language	Malay and English	Languages other than the two above
Time frame	Studies published within the last 10 years	Studies published earlier than the last 10 years
Indexing	Journals indexed in Scopus and Google Scholar	Journals not indexed in recognised databases
Study focus	Studies on the challenges faced by Islamic education teachers in using digital technology during teaching and learning	Studies that are not relevant to the topic

The articles included in this study comprised journal articles, conference papers and reports published over the last ten years, from 2015 to 2025. Article selection was limited to two languages only, namely Malay and English. Recognised databases were limited to Scopus and Google Scholar. Finally, studies that did not address the challenges faced by Islamic education teachers in using digital technology during teaching and learning were excluded.

Article Selection Process

Phase 1: Identification

In this phase, the article search was conducted through two recognised databases, namely Scopus (n = 9) and Google Scholar (n = 391). Overall, 400 articles were identified based on keywords related to the research topic, such as “Islamic Education” AND “Digital Technology” and “Pendidikan Islam” AND “Teknologi Digital”. These databases were selected because of their credibility in providing high-quality academic articles.

Table 2. Search String

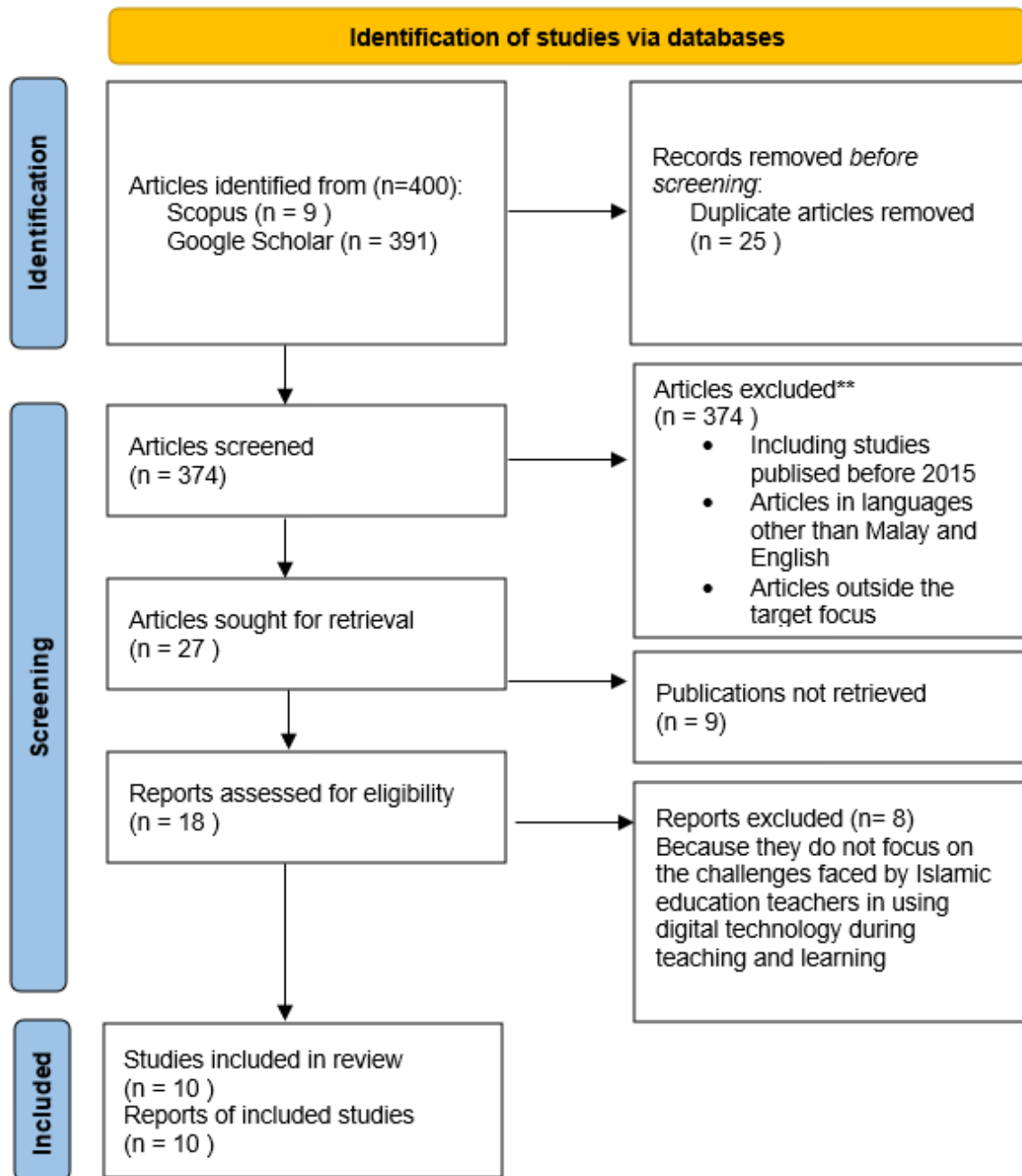
Database	Search Terms
Scopus	TITLE-ABS-KEY ("Islamic Education" AND "Digital Technology")
Google Scholar	"Pendidikan Islam" AND "Teknologi Digital"

Phase 2: Screening

After the articles had been identified, a screening process was carried out, beginning with the removal of duplicate records. The titles and abstracts were then read. At this stage, a number of articles were excluded because they did not meet the predetermined inclusion criteria, for example because they did not discuss the challenges faced by Islamic education teachers or the use of digital technology. After this screening process, the remaining articles proceeded to the next phase.

Phase 3: Inclusion

After passing through the screening process, only the articles that met all screening stages were selected for comprehensive analysis in this study. These articles were considered the most relevant and of sufficient quality to answer the research questions concerning the challenges faced by Islamic education educators in using digital technology during teaching and learning.



Article Quality Assessment

The quality assessment was conducted on the ten articles selected for this study using the evaluation guided by Mullet et al. (2016). Each article was assessed based on seven main criteria: research objectives and purpose, literature review, conceptual framework, research participants, research methods, findings and conclusion, and the significance of the study. Each criterion was given a score from 1 to 4, resulting in a maximum score of 28 marks for one article. To ensure that only quality articles were used in this synthesis, each article had to obtain at least 14 marks in order to meet the minimum acceptable quality level for systematic analysis (Margot & Kettler 2019).

The assessment showed that all ten articles passed the eligibility threshold. The highest score recorded was 28 marks, while the lowest score was 21 marks. Several articles were in the high-score category, ranging from 24 to 27 marks, while the remainder were in the moderate category, with scores of 21 marks. No article fell into the low category below 21 marks.

Therefore, all ten articles were considered suitable for inclusion in the analysis. This is because the articles met the quality assessment criteria and made meaningful contributions in terms of findings, methodology, and the study context relating to the challenges faced by Islamic education teachers in using digital technology during teaching and learning. Their selection also reflects a diversity of approaches and contexts that enrich this systematic literature review.

Data Collection and Data Analysis

Data collection was conducted using ten journal articles obtained from two databases, namely Scopus and Google Scholar. After the eligible articles had been identified, this study employed a qualitative content analysis approach as its main analytical strategy. This method was chosen because it enabled the researcher to identify key themes contained in each article, such as the types of technology used, methods of implementation, and the ways Islamic education educators overcome challenges in using digital technology during teaching and learning.

Content analysis involved a thorough reading of the articles in order to detect patterns, recurring themes, and relationships among the findings of various studies. This approach is highly suitable because the majority of the reviewed articles were qualitative studies that emphasised themes related to the challenges faced by Islamic education educators and how they overcome those challenges in using digital technology during teaching and learning.

To support the reliability of the analysis, the data were analysed systematically by organising the findings according to major categories related to the research questions. This enabled the researcher to compare and synthesise information comprehensively in order to identify trends, strengths, and gaps in the existing research.

Table 3 presents a summary of the analysed articles. According to Kumar (2011), an SLR study aims to develop a conceptual framework based on findings from previous studies. This is because the conceptual framework developed can serve as a useful reference.

Table 3: Summary of Articles

No.	Article Title	Author / Year	Challenges Faced by Islamic Education Educators in Using Digital Technology During T&L	How the Challenges Were Addressed
1	The Role of Teachers in the Implementation of E-Learning in Islamic Education from al-Ghazali's Perspective	Nur Eliza Mohd Noor, Tengku Sarina Aini Tengku Kasim and Yusmini Md. Yusoff / 2021	Islamic education educators need to master strong communication and interaction skills with students during Islamic education e-learning, in addition to improving their media and technology skills in teaching and learning.	When students use digital technology such as mobile phones excessively, educators remain alert and advise them appropriately so that they do not become distracted.
2	Implications of Islamic Education Lecturers' Mastery of ICT Skills on Interpersonal Relationships with Polytechnic Students in Malaysia	Ahmad Firdaus Mohd Noor, Khairunnisa A. Shukor / 2023	Islamic education educators have low ICT skills, and lecturers find it difficult to build interpersonal relationships with students.	They use discussion methods during online teaching and learning and improve their skills in using applications such as Prezi.

3	The Competence of Islamic Education Teachers in Using Google Meet for al-Quran Teaching	Siti Nurfitri Moyang and Khadijah Abdul Razak / 2022	Some Islamic education educators do not have comfortable facilities for conducting online teaching and learning.	They are trained through skills workshops and guidance on using digital technology. Many have become proficient in using this method in line with the demands of the Fourth Industrial Revolution.
4	Digital Teaching Strategies of Islamic Education Teachers: A Case Study in Primary Schools	Nor Alniza Azman, Mohd Isa Hamzah and Harun Baharudin / 2025	Islamic education educators are unable to adapt quickly to the challenges of digital education in teaching and learning.	They improve their digital technology skills so that teaching and learning can proceed smoothly and students can understand the lessons even when learning online.
5	The Application of Digital Technology in Enhancing Islamic Education Teachers' Self-Regulation	Wan Suhana binti Wan Mohammad and Hafizhah Zulkifli / 2025	Students find it difficult to understand lessons in virtual teaching and learning because Islamic education educators do not use the most appropriate strategies or methods.	Educators use more effective methods and strategies after learning techniques for using digital technology.
6	Analysis of the Teaching Experience of Islamic Education Teachers in Readiness to Conduct Online Teaching	Mohamad Fuad Haji Ishak, Sapie Sabilan, Suhana Mohamed Lip, Suziana Hanini Sulaiman and Shazarina Zdainal Abidin / 2024	There is a lack of infrastructure and learning support systems such as computer laboratories, rooms for preparing teaching aids, Wi-Fi, and multimedia rooms.	Islamic education educators strengthen their knowledge, including pedagogy, subject matter knowledge, technology skills, and motivation in online teaching and learning.
7	Digital Alternative Assessment Practices of Islamic Education Teachers (GPI) in National Schools	Suhaida Mohd Sukis, Norhisham Muhamad and Abd Hadi Borham / 2023	Islamic education educators are less skilled in using ICT during teaching and learning.	Not stated.
8	The Level of Self-Efficacy in Information and Communication Technology Applications for Teaching and Learning among Islamic Education Teachers in National Secondary Schools in Penang	Raja Nor Azuwah Raja Yusof and Nik Rosila Nik Yaacob / 2022	The teaching and learning process becomes difficult because the self-efficacy level of Islamic education educators is only moderate.	Not stated.
9	Facing the Challenges of the Industrial	Maziahtusima Ishak, Hazlina Abdullah,	The readiness level of Islamic education	Islamic education educators of various

	Revolution 4.0 Era: The Relationship between Continuous Learning Practices and the Performance of Islamic Education Teachers as Agents of Social Change	Sakinah Ahmad and Yuslina Mohamed / 2018	educators is low in facing the Fourth Industrial Revolution.	ages prepare themselves and improve their knowledge in the use of digital technology during teaching and learning.
10	The Use of Technology in al-Quran Teaching and Learning: A Review of Ethical Aspects and Their Effects on Moral Value Formation	Masni Mustapa, Siti Saidatulakmal binti Arishin and Jahidih Saili / 2024	Islamic education educators lack skills in the use of digital technology, making effective al-Quran teaching and learning more difficult for students.	They identify appropriate platforms, especially for al-Quran subjects, and ensure that students do not experience learning gaps in the teaching and learning process.

FINDINGS

The analysis of the ten articles that met the selection criteria shows that Islamic education educators face various challenges in using digital technology during teaching and learning. Through the thematic synthesis process, the main themes identified include internet access constraints and the level of readiness of Islamic education educators in using digital technology.

1) What challenges are experienced by Islamic education educators in using digital technology during teaching and learning?

Infrastructure Constraints

Infrastructure facilities and support systems for online teaching and learning are constrained by limited spaces such as computer laboratories and multimedia rooms. This makes it difficult for Islamic education teachers to conduct virtual classes (Mohamad Fuad et al. 2024). The study by Saifudin and Hamzah (2021) supports this finding by arguing that a major obstacle to technological integration is limited access to equipment and technological resources. Likewise, Francom (2018) emphasised that educators must have an adequate level of access to technological equipment and resources if technology integration is to be implemented effectively.

In terms of internet connectivity, weak internet access disrupts the teaching and learning process and may cause classes to begin later than scheduled. In addition, internet disruptions during heavy rain can further affect the smooth running of teaching and learning (Abdul Aziz et al. 2020).

Readiness Level of Islamic Education Educators

Several studies show that the readiness of Islamic education educators is at a moderate level, such as those by Oster and Peled (2014) and Nawati et al. (2020). For example, Suhaida et al. (2023) found that Islamic education educators are less proficient in using ICT during teaching and learning. In addition, the capability and knowledge related to media and digital broadcasting technology among Islamic education educators remain unsatisfactory (Eliza et al. 2021). Nevertheless, some Islamic education educators are dedicated to using digital methods in schools and show a positive attitude towards the new norm of online teaching and learning while also being able to adapt to educational technology (Siti & Khadijah 2022).

2) How do Islamic education educators overcome challenges in teaching and learning using digital technology?

There are several strategies for overcoming the challenges faced by Islamic education educators in the use of digital technology during Islamic education teaching and learning. The applicable strategies are as follows.

Teaching Strategies

Islamic education educators must use creative methods when conducting virtual teaching and learning (Hakim and Azis 2021). In addition, classroom productivity can be improved when teachers provide activities based on digital teaching and learning materials, as this has a more positive effect on students. Examples include digital audio materials for Arabic language teaching and videos demonstrating how to perform prayer (Alniza et al. 2024).

For the Jawi subject, several applications such as QR Code, anyflip.com, Mylink.la, Google Play Store, and wixsite.com have helped Islamic education educators and students to understand and learn the subject more effectively (Norarbainah et al. 2019). This study also found that digital applications in teaching and learning attract students' interest and have a positive effect on virtual learning.

Furthermore, Islamic education educators need to use appropriate approaches so that students can follow and understand the syllabus even in virtual settings. For example, Google Meet has been used for al-Quran teaching in a manner that closely resembles face-to-face interaction between teacher and student. Studies have shown that Islamic education educators are able to use this platform effectively (Siti & Khadijah 2022).

Improving ICT Skills

Islamic education educators need to improve their ICT skills because this is crucial for ensuring that teaching and learning run smoothly. When Islamic education educators are less skilled in the use of ICT, lessons cannot be carried out as effectively as they should be. Because many digital technologies now exist, Islamic education educators must learn and become proficient in using digital technology appropriately. Those who are less skilled in technology use can attend workshops and briefings to gain technological knowledge (Munusamy and Jamaludin 2022). Islamic education educators should always be ready to improve themselves and adapt their teaching methods in line with technological development (Ab Hakim and Iksan 2018).

DISCUSSION

This section discusses the synthesised results from the ten analysed articles relating to the challenges and the ways Islamic education educators overcome the use of digital technology during teaching and learning. Among the main challenges are infrastructural constraints such as the lack of devices and ICT facilities among Islamic education educators (Fitri & Khadijah 2022). Devices such as laptops and multimedia rooms are essential for Islamic education educators in implementing virtual teaching and learning. Weak internet access is also a challenge faced by Islamic education educators in carrying out the teaching and learning process.

Therefore, the government needs to make improvements in terms of infrastructure by increasing the number of computer laboratories and multimedia rooms. In addition, the large digital distribution gap, reflected in a 70:30 ratio between urban and rural areas, needs to be addressed (Karim 2020). According to Losius Goliong et al. (2020), an initiative to distribute smartphones, especially to students in the B40 category for teaching and learning purposes, should also be considered.

In addition, the readiness level of Islamic education educators remains less than encouraging. For example, there are still Islamic education educators who lack skills in interaction and communication with students (Fuad et al. 2024). Other studies by Eliza et al. (2021) and Firdaus and Khairunnisa (2023) reported that Islamic education educators do not possess a high level of ICT skills, and this complicates the teaching and learning process. Furthermore, the self-efficacy of Islamic education educators is only at a moderate level (Raja & Nik 2022). These are among the challenges they face when using digital technology.

Islamic education educators have adopted several approaches to overcome these challenges, including teaching strategies that incorporate digital assessment in Islamic Education subjects (Suhaida et al. 2023). Previous

studies have also found that Islamic education educators improve their ICT skills (Eliza et al. 2021). This is supported by Fitri and Khadijah (2022), who found that Islamic education educators have been able to adapt to educational technology. In addition, Islamic education educators are highly dedicated to using digital methods in primary schools (Alniza et al. 2025). According to Fuad et al. (2024), the overall readiness level of Islamic education educators in conducting online teaching and learning is at a moderately high level.

Potential improvements include providing Islamic education educators with training and courses to enhance their ICT skills (Wen et al. 2021). Islamic education educators can also use a variety of e-learning platforms to attract students' interest in online teaching and learning (Thannimalai & Baloh 2021). Therefore, the existing studies have limitations and require further research in the future.

Limitations And Recommendations For Future Research

The limitations of this study include the fact that it only examined studies conducted in Malaysia. In addition, the study used only two main databases, namely Scopus and Google Scholar, which limited access to studies from other databases. The time frame was also restricted to the period from 2015 to 2025, whereas studies published before that period may still be relevant. Finally, some of the analysed articles did not explain their research design in detail, making it difficult to identify clearly how Islamic education educators overcome the use of digital technology during teaching and learning.

Based on these limitations, the researcher proposes two directions for future research. First, future researchers could conduct a focused study on the strategies used by Islamic education educators to improve their skills and abilities in the use of technology (Ahmad et al. 2020). In addition, previous studies in Malaysia should be considered in order to assess the extent of the challenges faced by Islamic education educators when using digital technology during teaching and learning. Future researchers may also examine studies conducted in other Asian countries such as Indonesia, Brunei, and Singapore.

Finally, the researcher recommends that future studies be conducted to address the gaps found in previous studies. For example, research could focus specifically on effective applications used in teaching and learning with digital technology among Islamic education educators, since earlier studies such as Geoffrey et al. (2024) involved general teachers rather than specialists in Islamic education.

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