

Teacher Professionalism as Agents of Educational Change in the Digital Age: A Literature Review

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Abstract

Advances in digital technology demand transformation within the realm of education, particularly in enhancing the professionalism of Madrasah Ibtidaiyah (MI) teachers as agents of change. However, there remains a gap between the demands for teacher professionalism in the digital age and their actual ability to integrate technology into learning. Based on a theoretical lens, this study examines the professionalism of MI teachers as agents of educational change in the digital era. The study employs a qualitative approach along with library research through document analysis of various relevant scientific literature from the past 10 years. Data analysis is carried out by selecting data, presenting data and drawing conclusions in a systematic manner. The results indicate that the professionalism of MI teachers in the digital era is characterized by four main aspects: digital competence, learning innovation, the role as a facilitator, and the ability to adapt to technological developments. Digital competence is the dominant aspect supporting the effectiveness of learning and educational transformation. In conclusion, MI teachers play a strategic role as agents of change capable of fostering innovative, adaptive, and relevant learning in line with contemporary developments. This study contributes to the advancement of educational science, particularly in strengthening the concept of technology-based teacher professionalism, and serves as a foundation for the development of educational policies and practices that are more responsive to advances in science and technology.

Keywords: digital, the digital age, teacher competencies, elementary madrasah, teacher professionalism

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INTRIDUCTION

The development of digital technology has brought about significant changes in various aspects of life, including primary education. The digital era, characterized by advances in information and communication technology, requires changes in the learning process in terms of methods, media, and the role of teachers as educators. In this context, teachers no longer serve merely as transmitters of knowledge but also as facilitators, innovators, and drivers of learning who are able to adapt to the developments of the times. To improve the quality of education, teacher professionalism is crucial, particularly in addressing the challenges of the Society 5.0 era, which emphasizes the integration of technology and human life (Ien and Putri 2025).

These challenges are becoming increasingly complex in Madrasah Ibtidaiyah (MI), as teachers are expected not only to master subject matter and technology but also to foster students' character and Islamic values. However, the findings of the literature review indicate that some teachers have not yet utilized digital technology optimally in the learning process and have not fully adapted to the demands of dynamic educational changes. This is supported by research indicating that the main obstacles to improving educator professionalism in the digital era include limited utilization of technology, inadequate digital competency readiness, and the need for learning adaptation strategies that are aligned with the demands of Society 5.0 (Masitoh and Purbowati 2024).

This condition indicates that the issue of teacher professionalism is no longer solely related to the mastery of pedagogical and professional competencies as mandated by educational regulations, but also involves teachers' ability to respond to the rapid pace of digital transformation. If this condition is not addressed promptly, it may lead to low-quality learning, suboptimal development of students' twenty-first-century skills, and reduced competitiveness of Madrasah Ibtidaiyah graduates in facing future challenges. Therefore, a study is needed to provide a deeper understanding of how teachers perceive and exercise their professionalism amid these changes.

Theoretically, teacher professionalism can be understood as teachers' ability to integrate subject matter knowledge and pedagogical knowledge effectively into the learning process. Lee Shulman introduced the concept of Pedagogical Content Knowledge (PCK), emphasizing that professional educators should not only master subject matter but also understand the most appropriate ways to deliver it to students (Sutamrin, Rosidah, and Zaki 2022). In the context of the digital era, teacher professionalism also encompasses the ability to utilize technology as part of innovative and relevant learning strategies.

Furthermore, teachers play a strategic role as agents of change in education. According to Everett M. Rogers' Diffusion of Innovations theory, a change agent is an individual who plays a role in introducing and disseminating innovations within a social system. In the educational context, teachers are expected to become drivers of change by adopting technology, developing innovative learning methods, and creating learning environments that are responsive to contemporary developments. Research indicates that teachers in the digital era not only provide instruction but also act as agents of change who contribute to shaping students' ways of thinking and character through learning innovations (Rizky et al. 2025).

The role of teachers as agents of change has become increasingly important because the success of educational transformation at the primary school level, particularly in Madrasah Ibtidaiyah, largely depends on teachers' readiness to initiate change within the learning environment. Thus, the successful implementation of various digital-based educational policies is determined not only by the availability of technology but also by

teachers' ability to manage change, establish an adaptive learning culture, and instill character values in students.

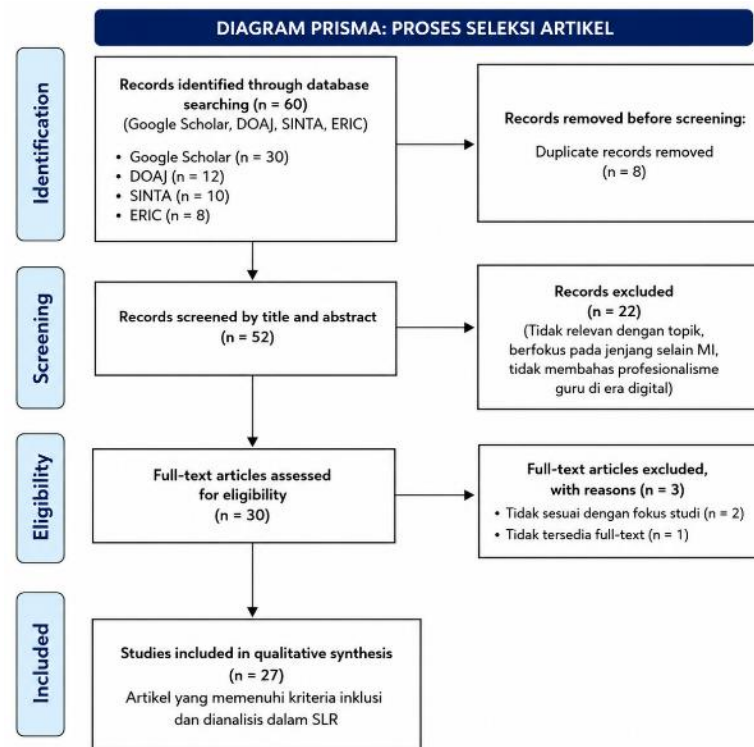
Nevertheless, there is a gap between the ideal concept of teacher professionalism as an agent of change and the actual conditions in the field. Several studies have identified obstacles in technology implementation, a lack of training, and limited facilities that hinder teachers from developing their professionalism optimally (Redaksi et al. 2025). In addition, the utilization of technology in learning remains suboptimal, as some teachers continue to use technology in a limited manner and have not fully integrated it into the learning process (Situmorang and Sitorus 2025).

Moreover, most previous studies tend to employ normative approaches, focusing primarily on measuring teacher competencies or evaluating the effectiveness of technology use. These studies have not sufficiently explored how teachers perceive their professionalism as agents of change, how they deal with actual challenges in the field, and what strategies they employ to adapt to developments in the digital era. Consequently, there remains a research gap that needs to be explored more deeply through a literature review of previous studies examining the role of teachers as agents of change in the digital era.

This research is important as an effort to provide a more comprehensive explanation of teacher professionalism in Madrasah Ibtidaiyah within the contemporary context and to serve as a basis for formulating teacher competency development strategies that are more relevant to current needs. The findings of this study are expected to contribute not only theoretically to the development of scholarship on teacher professionalism but also practically to madrasahs, government institutions, and educational organizations in designing teacher competency development programs that are aligned with the needs of digital transformation. Thus, this research is relevant as an effort to support the improvement of the quality of Islamic primary education that is adaptive, innovative, and sustainable. Using a qualitative approach, this study focuses on a theoretical examination of teachers' understanding and implementation of their roles as agents of change in the learning process. This study aims to analyze teacher professionalism in Madrasah Ibtidaiyah and examine the role of teachers as agents of educational change in the digital era based on a literature review.

RESEARCH METHODS

This study employs a qualitative approach using the *Systematic Literature Review* (SLR) method to examine in depth the professionalism of Madrasah Ibtidaiyah (MI) teachers as agents of educational change in the digital era. The SLR method was selected because it enables researchers to systematically and transparently identify, select, assess, and synthesize findings from various studies. The reporting process of this study follows the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) 2020 guidelines developed by Page et al. (2021). PRISMA 2020 provides reporting guidelines covering the identification of literature sources, selection criteria, data collection, synthesis of findings, and transparent presentation of the study selection process through a *flow diagram*. The study was conducted from January to March 2026, with the research setting being non-field-based, as all data were obtained from scientific literature sources accessible online.



Gambar 1. Diagram PRISMA Proses Seleksi Artikel
(Sumber: Hasil adaptasi dari Page et al., 2021)

Figure 1. PRISMA Flow Diagram

The data sources in this study consisted of national and international journal articles, scholarly books, and educational policy documents relevant to the topic of teacher professionalism and digital transformation. The literature search was conducted through databases such as Google Scholar, DOAJ, and Garuda using the keywords “teacher professionalism,” “digital era,” “teacher competence,” and “primary education.” The initial search yielded 60 articles. A screening process was then conducted based on the titles and abstracts, resulting in 40 relevant articles. The next stage involved an eligibility assessment by reviewing the full texts of the articles and applying the inclusion criteria, namely: (1) published within the last 10 years (2016–2025), (2) relevant to the research topic, (3) published in indexed scholarly journals, and (4) discussing teacher competence or professionalism in the digital era. Based on these criteria, 13 articles were excluded because they did not meet the requirements, resulting in 27 articles selected as the primary sources for this study.

The research procedure consisted of several stages, namely literature identification, screening, eligibility assessment, and the determination of the final included articles in accordance with the PRISMA framework. Data collection was conducted using a literature review method by examining previous research findings related to teacher professionalism as agents of change in the digital era.

Data analysis employed a qualitative analysis model consisting of data reduction, data presentation, and conclusion drawing, conducted gradually and continuously as described by John W. Creswell and J. David Creswell (Creswell and Creswell 2017). Data interpretation was carried out by integrating findings from various sources of literature to address the research objectives concerning the role of teacher professionalism as an agent of change in the digital era. This process resulted in a comprehensive understanding of competency development strategies, challenges faced by teachers, and

the relevance of teacher professionalism in improving the quality of primary education in the era of digital transformation.

RESULTS AND DISCUSSION

The findings of this study were obtained through a *Systematic Literature Review* (SLR) of 27 articles that were selected using the PRISMA protocol. The analysis employed a thematic approach based on the PICOS framework (*Population, Intervention, Comparison, Outcome, Study Design*) to identify the main patterns in research related to the professionalism of Madrasah Ibtidaiyah (MI) teachers in the digital era.

Based on the results of the data extraction, the following synthesis was obtained:

Table 1. Research Synthesis Based on the PICOS Framework

Component	Synthesis Findings
Population	MI teachers and primary school teachers in the context of digital education
Intervention	Integration of digital technology, digital literacy assignments, and learning innovations
Comparison	Conventional learning versus digital-based learning
Outcome	Improvement in teacher professionalism, learning quality, and student engagement
Study Design	Predominantly qualitative research and literature reviews

The findings indicate that all of the studies position teachers as the main actors in the transformation of digital education. The integration of technology serves as the primary intervention for enhancing teacher professionalism.

These findings indicate that the transformation of digital education is characterized not only by the increasing use of technology in the learning process but also by a paradigm shift in the meaning of teacher professionalism. In the digital era, teacher professionalism has evolved from merely mastering pedagogical competencies toward the ability to simultaneously integrate pedagogical, professional, social, and technological competencies into the learning process (Maulida et al. 2026). Therefore, Madrasah Ibtidaiyah teachers are not only required to be capable of using technology as a learning medium but also to utilize technology as a means of improving the quality of learning interactions, fostering students' creativity, and maintaining the Islamic values that characterize madrasah education (Laila Salma Karamay 2026). These findings demonstrate that teacher professionalism in the digital era has become more complex than in previous eras, as teachers must be able to balance technological innovation with the development of students' character (Anis Susanti 2024).

Furthermore, an analysis of the 27 articles identified four main themes concerning the professionalism of Madrasah Ibtidaiyah teachers in the digital era, as presented in Table 2 below:

Table 2. Categories of MI Teacher Professionalism in the Digital Era

Professionalism Category	Frequency	Percentage
Digital Competence	12	44%
Learning Innovation	7	26%
Role as a Facilitator	5	19%
Adaptation to Technology	3	11%

The following presents the findings of previous studies from 27 articles discussing teacher professionalism in Madrasah Ibtidaiyah (MI) in the digital era.

Based on the analysis of 27 relevant articles, it was found that teacher professionalism in the digital era is strongly influenced by the ability to integrate

technology into the learning process. The studies indicate that teachers are required to possess adequate digital literacy to keep pace with the rapid development of educational technology (Purba et al. 2024). Digital competence has become a primary indicator of teacher professionalism because technology has become an integral part of modern education systems (Astuti 2024). Teachers with high levels of digital competence are able to create learning experiences that are more interactive, engaging, and aligned with students' needs (Jannah and Rosdiana 2025). In addition, changes in the role of teachers have emerged as another important finding, as teachers no longer function merely as transmitters of information but also as learning facilitators (Rizky et al. 2025). This role requires teachers to be capable of guiding students in accessing and processing information independently.

The dominance of the digital competence category, accounting for 44%, indicates that digital literacy has become a fundamental component of teacher professionalism at the Madrasah Ibtidaiyah level. This finding suggests that teachers' ability to utilize technology is no longer viewed as an *additional competence* but has become an integral part of professional competence that determines the quality of learning (Maulida et al. 2026). Teachers with strong digital competence are not only capable of operating technological devices but are also able to select appropriate learning media, design interactive learning activities, and evaluate the effectiveness of technology use based on students' characteristics (Zaini et al. 2026).

Furthermore, the synthesis indicates that effective use of technology is consistently accompanied by teachers' ability to integrate pedagogical aspects into the use of digital media. In other words, the success of learning transformation is not determined by the sophistication of the technology being used, but rather by teachers' ability to design meaningful learning experiences through that technology (Zaini et al. 2026). This condition is consistent with the view that educational technology should function as an instrument to strengthen the learning process rather than merely replace conventional learning media (Maulida et al. 2026).

In the context of Madrasah Ibtidaiyah, digital competence also has distinctive characteristics because it must be integrated with the development of students' Islamic character. Teachers are not only required to master digital learning applications or platforms but must also be able to select digital content that is consistent with Islamic values, children's psychological development, and character education objectives (Saptadi et al. 2023). Thus, digital transformation in the madrasah environment does not eliminate the identity of Islamic education; rather, it provides a new medium for strengthening the internalization of religious values through more engaging and contextualized learning (Anis Susanti 2024).

On the other hand, the high demand for digital competence indicates that improving teacher professionalism cannot be achieved through self-directed learning alone. Competency development requires systematic training programs, continuous mentoring, and professional learning communities that enable teachers to share experiences and best practices in utilizing educational technology (Zaini et al. 2026). Other studies have also shown that support from madrasah principals through training, academic supervision, and the strengthening of a collaborative culture is an important factor that can accelerate the improvement of teachers' professional competence in responding to the digital era (Thohirin and Faizin 2026).

The use of educational technology has also been shown to improve the quality of learning when utilized optimally. However, some teachers still use technology in a limited manner, for example, merely for presenting learning materials (Situmorang and Sitorus

2025). Continuous professional training and development are important factors in improving teacher competence in the digital era. Teachers who participate in technology training tend to be better prepared to face the challenges of digital-based learning (Nurhemah and Putri 2025). Collaboration among teachers is also an effective strategy for improving professionalism because it facilitates the exchange of knowledge and experience (Saerang et al. 2023). Professional learning communities can support teachers in developing learning innovations (Yusuf, Izmala, and Iskandar 2025).

The synthesis findings indicate that the successful utilization of technology in learning is determined not only by the availability of digital devices but also by teachers' readiness to continuously develop their competencies. Therefore, practical, contextual, and needs-oriented training is one of the most effective strategies for improving teacher professionalism. Through such training, teachers not only acquire technical skills in using various digital learning platforms but also gain experience in designing learning media that are more creative, interactive, and appropriate to the characteristics of Madrasah Ibtidaiyah students (Zaini et al. 2026).

In addition to formal training, teacher professional development also takes place through a culture of collaborative learning within *professional learning communities*, which facilitates the exchange of experiences, reflection on teaching practices, and collaboration in addressing various learning challenges. Such a collaborative culture is important because technology is developing rapidly, requiring teachers to have opportunities to continuously share innovations and best practices (Laila Salma Karamay 2026).

These findings demonstrate that teacher professional development in the digital era is a dynamic process of *continuous professional development*. This means that teacher professionalism does not end after completing a particular training program but continues to develop through teaching experience, reflection on learning practices, and the ability to adapt to changes in educational technology (Maulida et al. 2026). Thus, a professional teacher is one who embraces a culture of *lifelong learning*, enabling them to maintain the quality of learning even as the educational environment continues to evolve.

Beyond technical aspects, teacher professionalism is also closely related to pedagogical competence in managing adaptive learning. Teachers must be able to adjust their teaching methods to the characteristics of students in the digital era (Afendi 2024). The utilization of online learning platforms is also an indicator of modern teacher professionalism. These platforms enable flexible learning that is not limited by time and space. However, various challenges remain in the development of teacher professionalism, including limited access to technology in some regions (Kartika and Jiofani 2025). Inadequate facilities and infrastructure remain significant barriers to the implementation of digital learning.

Adaptive pedagogical competence is a distinguishing factor between teachers who merely use technology and those who are genuinely capable of integrating technology effectively into the learning process (Suttriso et al. 2026). Professional teachers are able to determine when technology should be used, how it can support the achievement of learning objectives, and how to manage learning interactions so that students remain actively engaged and gain meaningful learning experiences (Maulida et al. 2026). Thus, pedagogical competence and digital competence are not two independent aspects but rather complementary components in shaping teacher professionalism in the digital era.

At the Madrasah Ibtidaiyah level, these abilities present more complex challenges because teachers must be able to develop learning activities that are appropriate to children's developmental characteristics while simultaneously instilling Islamic values in

every learning activity. Therefore, the use of digital platforms should not be oriented solely toward the effectiveness of delivering learning materials but should also consider character development, the strengthening of moral values, and the habituation of Islamic values in students' daily lives (Anis Susanti 2024).

In addition to teacher competence, findings from recent studies indicate that the successful implementation of digital learning is also influenced by institutional factors. Support from madrasah principals in the form of providing facilities, academic supervision, motivation, and the establishment of a collaborative work culture has been shown to enhance teachers' readiness to implement technology-based learning innovations (Thohirin and Faizin 2026). This indicates that teacher professionalism is the result of an interaction between individual competence and organizational support that is conducive to change.

Furthermore, resistance to change is also a challenge in teachers' adoption of technology. Some teachers are still unfamiliar with the use of technology in learning (Sugiyanto, Ahyani, and Kesumawati 2021). Another challenge is the lack of continuous training in educational technology (Istichoroh, Hamid, and Nihayatus 2025). This situation creates a competency gap between digitally literate teachers and those who have not yet developed adequate digital literacy.

These findings indicate that the challenges to teacher professionalism in the digital era stem not only from external factors, such as limited facilities and infrastructure, but are also influenced by internal factors, particularly individual readiness to embrace change. Resistance to innovation generally arises when teachers lack sufficient experience in utilizing technology or do not yet have confidence that technology can improve learning effectiveness. This condition causes the digital transformation process in schools to take place gradually and requires continuous mentoring to enable teachers to develop confidence in implementing technology-based learning innovations (Maulida et al. 2026).

Furthermore, differences in levels of digital literacy among teachers indicate that educational transformation cannot be implemented through a uniform approach. Teachers with different levels of teaching experience also have different competency development needs. Therefore, professional development programs should be designed progressively through training that corresponds to teachers' levels of competence, allowing the process of adapting to technology to take place more effectively (Laila Salma Karamay 2026).

These findings also indicate that changes in the learning paradigm require changes in the work culture within madrasahs. Teachers no longer work individually but require a collaborative culture that enables them to support one another in developing digital learning materials, sharing teaching experiences, and discussing solutions to various challenges in technology implementation. Thus, teacher professionalism develops not only through the enhancement of individual competencies but also through the establishment of productive learning communities within the madrasah environment (Thohirin and Faizin 2026).

On the other hand, technology provides significant opportunities to enhance teacher professionalism through broad access to information. Teachers can easily access various learning resources and the latest references. The use of technology also enables innovations in learning methods, such as *blended learning* and *hybrid learning*. These learning models provide students with more flexible learning experiences (Wati and Nurhasannah 2024).

Easy access to various digital learning resources provides teachers with broader opportunities for self-directed professional development. Various learning platforms, scholarly journals, interactive media, and professional communities enable teachers to obtain up-to-date information regarding learning strategies that are relevant to developments in science and technology. This condition demonstrates that technology not only supports students' learning processes but also serves as a means of lifelong learning for teachers as professionals (Zaini et al. 2026).

The implementation of learning models such as *blended learning* and *hybrid learning* also indicates a paradigm shift from teacher-centered learning toward student-centered learning. In these models, teachers act as designers of learning experiences who are capable of appropriately integrating face-to-face instruction with digital learning activities. This shift in roles demonstrates that teacher professionalism is no longer measured by the amount of material delivered but by teachers' ability to facilitate students in actively constructing knowledge (Maulida et al. 2026).

In the context of Madrasah Ibtidaiyah, the use of technology also creates opportunities to develop learning media based on Islamic values through educational videos, digital comics, learning animations, and interactive applications that support students' character development. Thus, digital learning innovation can go hand in hand with strengthening character education, ensuring that technological development does not displace the primary objectives of Islamic education but instead expands the media through which Islamic values can be internalized by students (Anis Susanti 2024).

Furthermore, technology supports more personalized learning according to students' needs. Teachers can adjust learning materials and methods based on students' abilities. Teacher professionalism also encompasses ethical aspects of technology use. Teachers must be able to use technology wisely and responsibly (Harpen et al. 2024). The development of teacher professionalism in the digital era also requires support from schools and government institutions. Policies that support the use of technology in education are essential. Digital-based academic supervision can also enhance teacher professionalism through more effective evaluation. Such systems enable real-time monitoring of the learning process (Rizky et al. 2025).

Ethics is an important dimension of teacher professionalism in the digital era because the use of technology involves not only technical skills but also moral responsibility in educating students. Teachers are expected to serve as role models in using technology responsibly, respecting copyright, protecting students' privacy, and guiding students to develop appropriate digital ethics when using various learning platforms. Thus, teacher professionalism in the digital era represents a combination of technological competence and moral integrity in carrying out educational responsibilities (Maulida et al. 2026).

Furthermore, teachers are also responsible for fostering a healthy digital culture within the school environment. This role can be realized through encouraging productive use of technology, strengthening information literacy, and cultivating critical attitudes toward various types of information obtained through digital media. This role further emphasizes that teachers are not merely users of technology but also educators who guide students to utilize technology intelligently, ethically, and responsibly (Ulfa, Silfia, and Putri 2025).

At the institutional level, support from madrasah principals is one of the factors determining the success of teacher professional development. Through academic supervision, training, professional development activities, Teacher Working Groups (*Kelompok Kerja Guru* or KKG), and a collaborative work culture, madrasah principals can

create a professional learning environment that encourages teachers to continuously develop learning innovations. Therefore, improving teacher professionalism cannot be separated from educational leadership that is visionary and adaptive to technological developments (Laila Salma Karamay 2026).

The integration of technology and pedagogy is key to creating high-quality learning. Teachers must be able to combine these two aspects in a balanced manner. In the context of primary education, professional teachers in the digital era are expected to be more creative and innovative in their teaching practices. Such creativity is necessary to maintain students' motivation to learn (Wati and Nurhasannah 2024). Overall, teacher professionalism in the digital era is a combination of technological competence, pedagogical competence, and professional attitudes. These three aspects must be developed in a balanced manner to improve the quality of education (Sitompul 2022).

These findings demonstrate that teacher professionalism in the digital era is a multidimensional construct. Professionalism is no longer measured solely by mastery of learning materials or conventional pedagogical abilities but also encompasses the ability to integrate technology, establish effective learning communication, foster creativity, and maintain ethical commitment in carrying out professional responsibilities (Maulida et al. 2026). Thus, teacher quality in the digital era is largely determined by their ability to balance technological and pedagogical aspects with human values as an inseparable whole.

Furthermore, the integration of technology and pedagogy should be understood as a process of learning transformation rather than merely the digitalization of learning media. Professional teachers are expected to design learning experiences that encourage students to think critically, collaborate, solve problems, and develop creativity through the use of technology that is relevant to learning objectives. Therefore, technology functions as a means of improving the quality of learning interactions rather than replacing the teacher's role as an educator (Zaini et al. 2026).

In the context of Madrasah Ibtidaiyah, this balance becomes increasingly important because teachers are responsible not only for achieving students' academic competencies but also for developing Islamic character and strengthening spiritual values. This indicates that technology-based learning innovations in madrasahs must remain grounded in the objectives of Islamic education, so that technological development can serve as a medium for strengthening students' character development (Anis Susanti 2024).

These findings are further supported by research published in the *Jurnal Riset Madrasah Ibtidaiyah* (JURMIA), which demonstrates that the use of digital learning media, such as digital comics and interactive technology, can increase students' learning motivation and conceptual understanding. In addition, the use of technology in learning contributes to the development of critical thinking skills, increased active student engagement, and greater learning independence. However, the study also identified several implementation challenges, including limited access to technology and teachers' readiness to optimally integrate technology into the learning process (Maulina and Zumrotun 2024).

These findings reinforce the synthesis obtained in this study, namely that the effectiveness of technology utilization is strongly influenced by teachers' professional readiness. Digital technology essentially provides various opportunities to improve the quality of learning; however, these benefits can only be realized when teachers possess pedagogical competence, digital competence, and the readiness to engage in continuous innovation (Laila Salma Karamay 2026). Therefore, the success of educational

transformation depends not only on the availability of technological devices but also on the quality of the human resources responsible for managing and utilizing them.

These findings also demonstrate that improving teacher professionalism is a shared responsibility among teachers, madrasah principals, and educational policymakers. Teachers need to continuously improve their competencies through lifelong learning, while madrasah principals play a role in creating an organizational culture that supports innovation, providing opportunities for professional development, and fostering collaboration among teachers. At the same time, the government has a responsibility to provide policies, training, and infrastructure that enable digital transformation to take place equitably across educational institutions (Thohirin and Faizin 2026).

In relation to the research objectives, these findings indicate that modern MI teachers are those who are able to use technology effectively and innovatively in teaching while actively supporting students in their learning. This reinforces the view that teachers are not merely implementers of instruction but also agents of change who can drive educational transformation toward a system that is more flexible and responsive to technological developments.

Based on the overall synthesis, it can be understood that Madrasah Ibtidaiyah teachers, as agents of change, function not only as implementers of educational innovations but also as the primary drivers of learning culture transformation within the madrasah environment. This role is demonstrated through teachers' ability to adopt technological developments, develop adaptive learning strategies, establish professional collaboration, and instill moral and spiritual values in students (Yasin et al. 2024). Thus, teachers become central actors who connect technological developments with the objectives of Islamic education, which are oriented toward developing individuals who are knowledgeable, possess strong character, and demonstrate noble moral conduct.

Furthermore, the findings of this study demonstrate that teacher professionalism as an agent of change is a continuous process that requires support from various stakeholders. Professionalism should not be understood merely as the achievement of individual competencies but must be developed through an educational ecosystem that supports innovation, collaboration, reflection, and continuous teacher capacity development (Thohirin and Faizin 2026). In this context, the success of digital educational transformation in Madrasah Ibtidaiyah depends heavily on synergy among teachers, madrasah principals, government institutions, and the community in creating an educational environment that is adaptive to technological developments without neglecting Islamic values.

These findings further emphasize the relevance of the ***Diffusion of Innovations*** theory used as the conceptual foundation of this study. According to this theory, change within a social system occurs through the process of innovation adoption, which is influenced by the presence of *change agents*. In the context of this study, Madrasah Ibtidaiyah teachers serve as *change agents* who introduce, adapt, and disseminate various technology-based learning innovations to students and the broader school environment. Therefore, the higher the level of teacher professionalism, the greater their capacity to drive educational transformation that is innovative, adaptive, and sustainable (Yasin et al. 2024).

Table 3. Summary of the Systematic Literature Review (SLR)

No .	Author(s)	Year	Research Title	Research Type	Research Focus	Main Findings
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1	Purba et al.	2024	Strategies for Developing Teacher Professionalism in the Digital Era	Qualitative	Teacher professionalism	Digital competence is a key factor in teacher professionalism.
2	Astuti	2024	Increasing Teacher Professionalism Through Digital Skills Development in the Modern Era	Literature Review	Digital skills	The development of digital skills improves the quality of learning.
3	Jannah & Rosdiana	2025	Digital Transformation and Technological Literacy in Teacher Professionalism	Quantitative	Digital literacy	Digital literacy influences teacher professionalism.
4	Rizky et al.	2025	Strengthening Teacher Professional Competence in the Digital Era	Qualitative	Professional competence	Teachers serve as both learning facilitators and agents of change.
5	Kartika & Jiofani	2025	The Role of Technology in Enhancing Teacher Professionalism in the Digital Era	Literature Review	Educational technology	Infrastructure remains a challenge in technology implementation.
6	Nurhemah & Putri	2025	Strengthening Teacher Competence through Student-Centered Learning	Qualitative	Teacher training	Training improves teachers' readiness to face the digital era.
7	Wati & Nurhasannah	2024	Strengthening Teacher Competence in Responding to the Digital Era	Literature Review	Teacher competence	Teachers' creativity increases through technology integration.
8	Situmorang & Sitorus	2025	The Role of Educational	Qualitative	Educational technology	Teachers' use of technology

			Technology in Developing Teacher Competence			remains suboptimal.
9	Sugiyanto et al.	2021	Teacher Professionalism in the Digital Era	Qualitative	Professionalism	Teacher resistance is a barrier to digital transformation.
10	Saerang et al.	2023	Strategies for Developing Teacher Professionalism in the Digital Age	Literature Review	Teacher collaboration	Collaboration enhances teacher professionalism.
11	Yusuf et al.	2025	The Role of Teachers in Promoting Learning Innovation in the Digital Era	Qualitative	Learning innovation	Teachers serve as learning innovators.
12	Harpen et al.	2024	Teacher Professionalism in Building Educational Ethics in the Modern Era	Literature Review	Teacher ethics	Digital ethics is an integral part of teacher professionalism.
13	Afendi	2024	Teacher Professional Development in the Digital Era	Case Study	Pedagogy	The integration of pedagogy and technology improves learning quality.
14	Sitompul	2022	Teacher Competence in Learning in the Digital Era	Literature Review	Competence	Teacher professionalism consists of pedagogical, technological, and professional competencies.
15	Masitoh & Purbowati	2024	Enhancing Teacher Professionalism in Indonesia	Literature Review	Society 5.0	The main challenges are digital literacy and teacher adaptation.
16	Redaksi et al.	2025	The Role of Professional	Literature Review	Teacher roles	Teachers are transforming

			Teachers as Learning Facilitators			into learning facilitators.
17	Maulina & Zumrotun	2024	The Influence of Teachers' Social Competence on the Learning Process	Qualitative	Social competence	Social competence supports digital learning.
18	Yasin et al.	2024	The Role of Teachers as Agents of Change in Schools and Communities	Qualitative	Agents of change	Teachers serve as drivers of educational change.
19	Ulfa et al.	2025	The Role of Teacher Ethics and Responsibility	Literature Review	Ethics	Teachers are required to possess digital ethics.
20	Zaini et al.	2026	Digital Technology-Based Learning Training for Madrasah Teachers	Community Service	Training	Training improves the digital competence of MI teachers.
21	Karamay	2026	Madrasah Principal Strategies for Developing PAI Teacher Professionalism	Case Study	Leadership	Madrasah principals play a significant role in improving teacher professionalism.
22	Thohirin & Faizin	2026	Madrasah Principal's Leadership in Improving Teacher Performance Motivation	Qualitative	Leadership	Madrasah principal leadership strengthens teacher motivation.
23	Anis Susanti & Zainuddin	2024	Developing Islamic Character from an Early Age	Literature Review	Character education	Technology should be integrated with Islamic values.
24	Istichoroh et al.	2025	Strategies of Islamic Religious	Qualitative	Islamic Religious	Moral values remain a

			Education Teachers in Instilling Moral Values		Education teachers	priority in the digital era.
25	Ien & Putri	202 5	Teacher Professionalis m in Improving Education in the Society 5.0 Era	Literature Review	Society 5.0	Teachers must be adaptive to technological developments.
26	Sutamrin et al.	202 2	The Pedagogical Content Knowledge (PCK) of Prospective Teachers	Qualitative	PCK	PCK serves as a foundation for teacher professionalis m.
27	Creswell & Creswell	201 7	<i>Research Design</i>	Methodolog y Book	Methodology	Used as the basis for qualitative data analysis in this study.

CONCLUSION AND ADVICE

Based on a literature review of 27 previous studies, teacher professionalism in Madrasah Ibtidaiyah (MI) as a driver of educational change in the digital era is characterized by teachers' ability to integrate digital skills, innovate in learning, and serve as facilitators in the learning process. Teachers no longer merely deliver lessons; they now serve as facilitators who are able to utilize technology to create learning experiences that are creative, flexible, and responsive to students' needs. Digital competence is the most dominant aspect, indicating that technological proficiency is a key factor in supporting teacher professionalism in the digital era. Thus, MI teachers play a strategic role in driving educational transformation toward a system that is more responsive to contemporary developments.

This study has limitations because it employs a literature review method that relies on secondary data and does not directly involve empirical data from the field. Therefore, future research is recommended to employ a field-based qualitative approach or case study to obtain a more in-depth understanding of the professional practices of Madrasah Ibtidaiyah teachers as agents of educational change in the digital era. Future studies may also examine the implementation of specific digital technologies, including the use of learning platforms, digital media, and artificial intelligence to support the learning process and the development of teachers' professional competencies.

In terms of practical implications, the findings of this study can serve as a consideration for MI teachers in improving their pedagogical, professional, social, and personal competencies through the adaptive, creative, and responsible use of technology. For madrasahs, these findings can serve as a basis for designing continuous professional development programs, digital literacy training, and the provision of facilities and learning environments that support digital transformation. Therefore, strengthening teacher professionalism should not be directed solely toward the ability to use

technology but also toward teachers' ability to integrate technology with educational values, students' needs, and the characteristics of learning in Madrasah Ibtidaiyah, enabling teachers to effectively fulfill their role as agents of educational change in the digital era.

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