

School Principal Management in Enhancing the Digital Competence of Islamic Religious Education Teachers: A Case Study at MIN 7 and MIN 10 Banda Aceh

Ersalmina,¹ Abubakar,² Wahyu Khafidah,³ Muslem Daud^{4*}

Mahasiwi Pascasarjana Magister Pendidikan Agama Islam, Universitas Serambi Mekkah &
Guru MIN 7, Banda Aceh, Indonesia¹

Dosen Universitas Serambi Mekkah, Banda Aceh, Indonesia^{2, 3, 4}

*Email Korespondensi: muslem.daud@serambimekkah.ac.id,

ARTICLE INFO

Article History:

Submitted 30-Juni-2026

Received 6-Juli-2026

Published 8-Juli-2026

Keywords:

School Management;
Digital Classroom;
Islamic Teachers;
MIN Banda Aceh

Kata Kunci:

Manajemen Sekolah; Kelas
Digital; Guru Pendidikan
Agama Islam; MIN Banda
Aceh.

ABSTRACT

The sustainability of education in the digital era requires continuous improvement in teachers' digital competencies supported by effective school leadership. This study aims to examine the management practices of school principals in enhancing the digital competence of Islamic Religious Education (IRE) teachers through a case study at Madrasah Ibtidaiyah Negeri (MIN) 7 and MIN 10 Banda Aceh, Indonesia. A mixed-methods approach with a descriptive design was employed, integrating quantitative and qualitative data. Data were collected through questionnaires and semi-structured interviews involving the principals and all teachers engaged in digital learning at both schools, totaling ten participants. The findings reveal that the principals systematically planned and implemented annual programs to strengthen teachers' digital competence, including digital skills training, educational seminars, teacher workshops, Digital Teacher Working Group (Kelompok Kerja Guru/KKG) activities, reward systems for outstanding teachers, and expanded access to Information and Communication Technology (ICT) resources. Continuous monitoring and evaluation ensured that these programs were implemented effectively according to the annual plans. However, implementation faced challenges related to limited financial resources and inadequate educational facilities and technological infrastructure. The study highlights the crucial role of school principals in fostering teachers' digital competence and supporting sustainable digital transformation in Islamic primary education.

ABSTRAK

Keberlanjutan pendidikan di era digital menuntut peningkatan kompetensi digital guru yang didukung oleh kepemimpinan kepala sekolah yang efektif. Penelitian ini bertujuan untuk mengkaji praktik manajemen kepala sekolah dalam meningkatkan kompetensi digital guru Pendidikan Agama Islam (PAI) melalui studi kasus di Madrasah Ibtidaiyah Negeri (MIN) 7 dan MIN 10 Banda Aceh, Indonesia. Penelitian ini menggunakan pendekatan mixed methods dengan desain deskriptif yang mengintegrasikan data kuantitatif dan kualitatif. Data dikumpulkan melalui kuesioner dan wawancara semi-terstruktur yang melibatkan kepala sekolah serta seluruh guru yang menerapkan pembelajaran digital di kedua madrasah, dengan

jumlah total sepuluh partisipan. Hasil penelitian menunjukkan bahwa kepala sekolah secara sistematis merencanakan dan melaksanakan program tahunan untuk meningkatkan kompetensi digital guru, meliputi pelatihan keterampilan digital, seminar pendidikan berbasis digital, lokakarya guru, kegiatan Kelompok Kerja Guru (KKG), pemberian penghargaan bagi guru berprestasi, serta penyediaan akses terhadap sumber daya Teknologi Informasi dan Komunikasi (TIK). Monitoring dan evaluasi dilakukan secara berkelanjutan agar seluruh program terlaksana sesuai rencana tahunan. Namun, pelaksanaannya masih menghadapi kendala berupa keterbatasan anggaran, sarana pendidikan, dan infrastruktur teknologi. Penelitian ini menegaskan pentingnya peran kepala sekolah dalam meningkatkan kompetensi digital guru serta mendukung transformasi digital yang berkelanjutan pada pendidikan dasar Islam.

INTRODUCTION

Education must be managed effectively to achieve its goals, particularly in the digital era where technology integration has become indispensable (Robbins, 2019; Nata, 2007). Educational management should also produce individuals who are knowledgeable, competent, and globally competitive while upholding strong moral values (Kholifatun Azizah et al., 2026; Abubakar & Anwar, 2015; Pulungan, 2015; Darajat, 2008). Indonesia's National Education System, grounded in Pancasila and the 1945 Constitution, requires schools to integrate Information and Communication Technology (ICT) into instruction, as reflected in growing use of digital platforms such as Zoom and Google Meet (Titik Lusiani et al., 2025; Ahmad Nanda Maulana et al., 2024; Ari Setyowati, 2022). ICT enables interactive and creative learning materials (Rintho, 2018) and has become an essential competency for teachers, including those at Madrasah Ibtidaiyah, to meet the demands of twenty-first-century education (Rita Inderawati, Budi Mulyono, & Santi Oktarina, 2024), a need reinforced by the 2013 and Merdeka Curricula.

Within this context, effective managerial leadership from school principals is essential to maximize teachers' potential through digital learning initiatives (Anis Salamah & Moh. Syamsul Falah, 2023; Wahyu Khafidah & Sakban, 2021). Prior studies highlight strategies such as digital-based quality assurance systems, instructional leadership for digital literacy, and management training toward a Smart School Society 5.0 (Kholifatun Azizah et al., 2026; Muhammad Rizqi Ismail & Nur 'Azah, 2023; Ari Kartiko et al., 2023), underscoring the principal's role as a leader of digital transformation. Principals are also considered key determinants of successful ICT-based education (Suparman, 2019; Pulungan, 2015), with leadership defined as the capacity to motivate, direct, and influence school members toward institutional goals (Wahyu Khafidah & Sakban, 2021; Wahyudi, 2012).

Principals are responsible for instructional leadership, curriculum development, personnel management, and overall school organization, creating conditions for effective teaching and learning (Wahyu Khafidah & Sakban, 2021; Wahyudi, 2012). Suparman (2019) describes a principal as a functional teacher entrusted with leading the institution where teaching and learning occur. Under Law No. 14 of 2005 on Teachers and Lecturers, teachers must possess personal, pedagogical, social, and professional competence, and principals are expected to strengthen pedagogical competence through professional development (Anwar et al., 2020), including training teachers to design multimedia and digital learning materials (Wahyu Khafidah et al., 2025; Mukhtar Latif, Kasful Anwar, & Wahyu Khafidah, 2017). This responsibility is particularly significant for MIN Banda Aceh, where teachers must adapt to rapid technological change to deliver meaningful learning experiences.

Over the past two decades, ICT advances – accelerated by the COVID-19 pandemic and sustained through blended and hybrid learning – have reshaped instruction, learning, and educational management (Suprihatin et al., 2025; Titik Lusiani et al., 2025; Daud & Sariakin, 2025; Daud & Mariati, 2021). Despite government support, digital learning in Indonesia still faces infrastructure gaps, uneven digital competence, unequal internet access, and cultural resistance, making strong school leadership essential to organizational change (Daud et al., 2022). Principals act as instructional leaders and change agents whose responsibilities have evolved into digital leadership – using technology strategically to improve instructional quality and outcomes (Anwar et al., 2024; Wahyu Khafidah & Sakban, 2021), extending beyond operating devices to integrating vision, strategy, and technology-enhanced innovation, as emphasized by the OECD (Anis Salamah & Moh. Syamsul Falah, 2023; Muhammad Rizqi Ismail & Nur 'Azah, 2023).

Pedagogically, technology integration should follow the TPACK framework, balancing technological, pedagogical, and content knowledge, while the SAMR model highlights progression from mere substitution toward transformed learning experiences. Principals must therefore guide teachers to use technology meaningfully rather than administratively. The demands of Industry 4.0 and Society 5.0 – critical thinking, creativity, collaboration, and digital literacy – require principals to bridge national policy with institutional practice (Ari Kartiko et al., 2023; Nurainiah, Qurrata Akyuni, & Nanda Saputra, 2023), making this study on principals' roles in digital-based learning integration highly relevant.

Management itself is broadly defined as planning, organizing, directing, and controlling resources to achieve objectives effectively and efficiently (Handoko & Hani, 2000), a view echoed by Fayol, Taylor, and Drucker in Robbins (2019). Applied to school leadership, these functions comprise planning objectives and strategies, organizing resources, leading and motivating staff, and controlling through monitoring and evaluation (Wahyu Khafidah et al., 2025; Wahyu Khafidah & Sakban, 2021). Preliminary observations at the research sites revealed teachers' limited understanding of integrating digital technology into Islamic education instruction,

compounded by inadequate internet connectivity and devices—challenges that highlight the importance of effective principal leadership and management (Daud et al., 2024).

Accordingly, principals are expected to serve as catalysts of transformation by initiating professional development programs, providing technical support, and fostering environments that encourage meaningful technology integration, ensuring teachers at MIN throughout Banda Aceh are prepared to deliver effective and inclusive digital learning. This study therefore examines how school principals manage initiatives to strengthen the digital competence of Islamic Religious Education (IRE) teachers through: (1) organizing digital competency training programs, (2) conducting digital-based educational seminars, (3) implementing teacher professional workshops, (4) managing Digital Teacher Working Groups (Kelompok Kerja Guru/KKG), (5) providing rewards and recognition for high-performing teachers, and (6) expanding teachers' access to ICT for instructional activities and professional development.

METODE

This study used a qualitative research approach, in which data and information gathered become the primary basis for analyzing and discussing the research findings (Sugiyono, 2017). Therefore, to obtain the data required to examine the theme of the research of involving the two headmasters of MIN 7 and MIN 10 Banda Aceh Aceh. Besides, the research method involved 10 teachers from both schools as respondents of the research. This approach is consistent with the views of Moleong (2019) who argue that in determining respondents, researcher must selected respondents appropriately to represent the characteristics relevant to the study.

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sampel size

N = population size

e = Critical Score

No random sampling required since all stakerholders studied involved because their numbers is below 100 respondents (Moleong, 2019).

Table 1: Population as Research Sample

	Gender	Principals	Digital Teacehrs	Remark
Sex	Male	1	6	MIN 7
	Female	1	4	MIN 10
Total		2	10	

As it can be seen that both principals form the two schools involved in the study from MIN 7 and MIN 10 Banda Aceh. Ther are teachers who usually digital methodologi in teaching subjects of Islamic Religious Education teachers. The verification process covered the four

Religious Education subjects examined in this study, namely Al-Qur'an and Hadith, Fiqh (Islamic Jurisprudence), Aqidah-Akhlak (Islamic Creed and Morality), and Islamic Cultural History.

Table 2: Data Collection Form by questionnaire and interview

Activity		Scale*		Remark	
		MIN 7	MIN 10		
Professional development program	Organizing digital competency training programs				
	Conducting digital-based educational seminars				
	Implementing teacher professional workshops				
	Managing Digital Teacher Working Groups (<i>Kelompok Kerja Guru – KKG</i>)				
	Providing rewards and recognition for high-performing teachers				
	Expanding teachers' access to Information and Communication Technology (ICT) for instructional activities and professional development				
*Scale	Strongly Agree (5)	Agree (4)	N: Neutral (3)	Disagree (2)	Strongly Disagree (1)

RESULT AND DISCUSSION

Questionnaire Findings from the Madrasah Principals

Based on the data collected through the questionnaire survey, the findings are presented in the following table.

Table 3: Principals' Questionnaire Responses on Professional Development Program

Activity		Scale		Remark
		MIN 7	MIN 10	
Professional development program	Organizing digital competency training programs	2	1	
	Conducting digital-based educational seminars	2	2	
	Implementing teacher professional workshops	1	1	
	Managing Digital Teacher Working Groups (<i>Kelompok Kerja Guru – KKG</i>)	6	6	
	Providing rewards and recognition for high-performing teachers	2	1	
	Expanding teachers' access to Information and Communication Technology (ICT) for	2	2	

instructional activities and professional development

Based on the table above, it can be observed that both madrasahs have implemented a variety of professional development initiatives aimed at enhancing teachers' capacity and competencies in managing digital classrooms. Although both institutions have actively conducted such programs, a slight difference is evident between them. MIN 7 recorded a marginally higher frequency of activities than MIN 10, with a total of 13 professional development programs implemented. This difference may be attributed to the greater institutional capacity and available resources of MIN 7, enabling the school to organize and implement professional development activities more flexibly and consistently.

Table 4. Principals' Questionnaire Responses on the Challenges Faced in Implementing Programs

		Scale		Remark
		MIN 7	MIN 10	
Challenges in Professional development program	Organizing digital competency training programs	4	3	
	Conducting digital-based educational seminars	4	3	
	Implementing teacher professional workshops	5	5	
	Managing Digital Teacher Working Groups (Kelompok Kerja Guru – KKG)	3	3	
	Providing rewards and recognition for high-performing teachers	3	3	
	Expanding teachers' access to Information and Communication Technology (ICT) for instructional activities and professional development	4	3	

Based on the table above, it can be observed that both madrasahs possess the facilities and infrastructure necessary to support various professional development programs aimed at enhancing teachers' capacity and competencies in managing digital classrooms. The findings further indicate that the facilities and infrastructure available at MIN 7 are relatively more comprehensive than those at MIN 10. This difference may be attributed to MIN 7's greater institutional capacity and resource availability, enabling the school to provide more adequate facilities and infrastructure for teacher training and professional development initiatives.

Interview Findings from the Madrasah Principals

The interview with the principal of MIN 10 Banda Aceh revealed that *'the school implements teacher professional development programs in accordance with the National Education Standards. The principal explained that efforts to enhance teachers' digital competencies were carried out through regular meetings conducted either at the school level or within the Teacher Working Group (Kelompok Kerja*

Guru – KKG). These meetings focus on improving teachers' digital skills, preparing digital classrooms, identifying instructional challenges, and developing appropriate solutions. In addition, the principal regularly conducts academic supervision to monitor teachers' professional performance'.

The principal further explained that 'several programs have been planned and implemented to strengthen teachers' digital competencies, including digital skills training, digital-based educational seminars, teacher workshops, Digital Teacher Working Groups (KKG), reward and recognition programs for high-performing teachers, and the provision of broad access to Information and Communication Technology (ICT) to support teaching and professional development. The implementation of these programs is continuously monitored and evaluated to ensure that they are carried out effectively and remain aligned with the annual action plans established at the beginning of the academic year. The principal also emphasized that the planning, implementation, monitoring, and evaluation processes involve multiple stakeholders, including the school principal, the head of the Teacher Working Group (KKG), school supervisors, vice principals, and all teaching staff.'

A similar perspective was expressed by the principal of MIN 7 Banda Aceh, who stated that 'the school promotes teachers' digital competencies through a variety of professional development initiatives. These include digital and ICT training, digital-based educational seminars, teacher workshops, Digital Teacher Working Groups (KKG), mentoring programs for teachers, reward systems for outstanding teachers, and the provision of extensive access to ICT resources for instructional activities and professional development'.

Furthermore, the principal of MIN 10 explained that 'the school prepares an annual work plan at the beginning of each academic year to support continuous teacher development. The work plan is reviewed and revised annually to ensure its relevance to current educational needs. The development, implementation, and supervision of these programs involve the school principal, the head of the Teacher Working Group (KKG), school supervisors, vice principals, and all teaching staff. The principal highlighted that the school's major initiatives for improving teachers' digital competencies include Teacher Working Group (KKG) activities, ICT training programs, digital-based seminars, and teacher professional workshops'.

Similarly, the principal of MIN 7 explained that 'programs designed to enhance the digital competencies of Islamic Religious Education (IRE) teachers are formulated through school meetings chaired by the principal. These meetings are attended by all teachers, administrative staff, school supervisors, and the head of the Teacher Working Group (KKG). During these meetings, participants are encouraged to share suggestions and ideas, which are subsequently discussed and incorporated into the school's professional development plans. The principal further noted that the school implements a variety of initiatives, including ICT-based professional development training, Digital Teacher Working Groups (KKG), and digital education and training programs. These initiatives are intended to accelerate the achievement of the school's strategic objective of strengthening teachers' digital competencies and improving the quality of digital-based instruction'.

Questionnaire Findings from Teachers

To obtain more comprehensive and reliable information, the questionnaire findings from the madrasah principals were triangulated with responses collected from teachers involved in digital classroom instruction. The results are presented in the following table.

Table 5. Teachers' Questionnaire Responses on the Challenges Encountered in Implementing Programs

										Scale				Remarks						
Activity										Teacher MIN 7						Teacher MIN 10				
										1	2	3	4		5	6	1	2	3	4
Challenges in Professional development program	Organizing digital competency training programs	4	4	4	4	4	4	3	3	3	3									
	Conducting digital-based educational seminars	4	4	4	4	4	4	3	3	3	3									
	Implementing teacher professional workshops	5	5	5	5	5	5	5	5	5	5									
	Managing Digital Teacher Working Groups (<i>Kelompok Kerja Guru – KKG</i>)	3	3	3	3	3	3	3	3	3	3									
	Providing rewards and recognition for high-performing teachers	3	3	3	3	3	3	3	3	3	3									
	Expanding teachers' access to Information and Communication Technology (ICT) for instructional activities and professional development	4	4	4	4	4	4	3	3	3	3									

Based on the table above, it can be observed that teachers from both madrasahs reported that their schools possess the facilities and infrastructure necessary to support various professional development initiatives aimed at enhancing teachers' capacity and competencies in managing digital classrooms, although their responses varied in several aspects. Teachers at MIN 7 generally perceived that their school had adequate digital facilities and infrastructure to support digital learning and professional development activities. In contrast, the facilities and infrastructure at MIN 10 were perceived as relatively more limited, as reflected in the hesitation expressed by several teachers when responding to the questionnaire. These findings are consistent with the perspectives of the respective school principals, who indicated that MIN 7 possesses greater institutional capacity and resources than MIN 10. Consequently, MIN 7 is better positioned to provide facilities and infrastructure that support teacher training and continuous professional development in digital education.

DISCUSSION

The findings obtained from the questionnaires administered to the madrasah principals and teachers, together with the interview data, indicate that the principals of both madrasahs have made substantial efforts to strengthen teachers' digital competencies. These efforts have been implemented through a variety of initiatives, including digital skills training, digital-based educational seminars, teacher workshops, the management of Digital Teacher Working Groups (*Kelompok Kerja Guru – KKG*), reward and recognition programs for high-performing teachers, and the provision of broad access to Information and Communication Technology (ICT) to

support teaching, learning, and professional development. Overall, the evidence suggests that the principals have actively fulfilled their managerial and instructional leadership responsibilities in promoting digital transformation within their respective schools.

These findings are consistent with the studies conducted by Ahmad Nanda Maulana et al. (2024) and Ari Setyowati (2022), which emphasize that educational institutions throughout Indonesia are increasingly required to integrate Information and Communication Technology (ICT) into teaching and learning processes through digital platforms such as Zoom, Google Meet, and other online learning applications. As digital technology has become an integral part of modern society, schools are expected to prepare teachers who are capable of effectively integrating technology into classroom instruction.

The present findings also support previous research demonstrating that effective school leadership contributes significantly to teacher professional development. Earlier studies have reported that school principals enhance teachers' performance by implementing comprehensive professional development programs, including teacher training, educational seminars, teacher workshops, Subject Teacher Consultation Forums (*Musyawarah Guru Mata Pelajaran* – MGMP), Teacher Working Groups (KKG), recognition and reward systems for outstanding teachers, additional incentives, and opportunities for teachers to utilize ICT in instructional activities. Such initiatives have been shown to improve both teachers' professional competence and instructional performance.

The findings further reinforce the arguments of Anis Salamah and Moh. Syamsul Falah (2023) as well as Wahyu Khafidah and Sakban (2021), who contend that improving teachers' digital competencies requires strong commitment, strategic leadership, and effective educational governance by school principals. Digital transformation cannot be achieved solely through the provision of technological resources; rather, it requires systematic planning, continuous supervision, and sustainable professional development programs led by competent educational leaders.

Although both madrasahs continue to experience limitations in educational facilities and technological infrastructure, these constraints have not diminished the principals' commitment to developing teachers' professional capacities. Instead, the principals have adopted various strategic approaches to maximize available resources while maintaining the continuity of teacher development programs. This finding is in line with the work of Muhammad Rizqi Ismail and Nur 'Azah (2023) as well as Ari Kartiko et al. (2023), who emphasize that educational leaders should formulate adaptive strategies to overcome institutional challenges while maintaining a strong focus on achieving educational objectives. Their studies suggest that teacher professional development may be strengthened through an integrated system consisting of teacher development planning, academic supervision, professional training, and continuing education.

The findings of this study further indicate that teacher development implemented by the school principals extends beyond formal administrative supervision. Instead, it incorporates problem-based professional development approaches that encourage teachers to collaboratively identify and solve instructional challenges. The supervisory practices adopted by both school principals and school supervisors involve two complementary approaches: group supervision, which facilitates collaborative problem-solving among teachers, and individual supervision,

which provides personalized guidance to address specific professional needs. These approaches contribute to the continuous improvement of teachers' pedagogical and digital competencies.

These findings are also consistent with the perspectives of Suparman (2019) and Pulungan (2015), who argue that school principals play a pivotal role in implementing ICT-based education through carefully planned and well-managed programs. Likewise, Wahyu Khafidah and Sakban (2021), together with Wahyudi (2012), emphasize that effective leadership encompasses the ability to motivate, guide, and influence organizational members to work independently, make informed decisions, and collectively achieve institutional goals.

Overall, although the implementation of digital transformation initiatives in MIN 7 and MIN 10 Banda Aceh has not yet reached an ideal level, both schools have demonstrated a strong commitment to continuously improving the digital competencies of Islamic Religious Education teachers. The various management strategies implemented by the school principals have contributed positively to teacher professional development and have laid a solid foundation for strengthening the quality of digital-based learning within Islamic elementary education.

CONCLUSION

Based on the findings of this study, it can be concluded that the principals of MIN 7 and MIN 10 Banda Aceh have established systematic management practices to enhance teachers' digital competencies. Teacher professional development programs are carefully planned and implemented on a regular basis, with digital skills training serving as the primary annual activity. These initiatives are further supported by digital-based educational seminars, teacher workshops, Digital Teacher Working Groups (Kelompok Kerja Guru—KKG), reward and recognition programs for outstanding teachers, and the provision of broad access to Information and Communication Technology (ICT) to facilitate both instructional activities and continuous professional development.

The findings also indicate that the school principals' efforts to strengthen teachers' digital competencies are positively recognized by teachers. Despite challenges related to limited facilities and technological infrastructure, the principals have adopted appropriate management strategies to ensure the continuity and effectiveness of digital professional development programs. Continuous supervision and evaluation are conducted through regular meetings and annual work-planning sessions held at the beginning of each academic year.

Furthermore, the successful implementation of these initiatives is supported by collaborative leadership involving multiple stakeholders within the school community, including school supervisors, the heads of the Teacher Working Groups (KKG), vice principals, and teaching staff. This collaborative management approach has contributed to the effective planning, implementation, monitoring, and evaluation of programs designed to improve teachers' digital competencies. Overall, the findings demonstrate that effective school leadership and strategic educational management play a crucial role in supporting digital transformation and strengthening the quality of teaching and learning in Madrasah Ibtidaiyah.

This study contributes to the development of educational management literature by providing empirical evidence on how systematic school management practices can strengthen the digital competencies of Islamic Religious Education teachers in Madrasah Ibtidaiyah. The findings also offer practical insights for school leaders and educational policymakers in designing sustainable professional development programs to support digital transformation in schools. Future research is recommended to involve a larger number of schools across different regions and employ comparative or mixed-method approaches to examine the effectiveness of various school management strategies in improving teachers' digital competencies.

ACKNOWLEDGEMENT

High appreciation is extended to the Director of the Postgraduate Program of Universitas Serambi Mekkah (Dr. Ners Masyudi, S.KM., M.Kes), the Head of the Master's Program in Islamic Teacher Training (Dr. Qurrata Akyuni, S.Pd.I., M.A), Supervisor 1 (Dr. Abubakar, M.Si), Supervisor 2 (Dr. Wahyu Khafidah), and all staff members of the Postgraduate Program of Universitas Serambi Mekkah for their support in completing this work. High appreciation is also extended to the Head of the Religious Affairs Office of Banda Aceh (Dr. H. Salman, S.Pd., M.Ag) and all staff members, the Heads of Madrasah Ibtidaiyah Negeri 7 and Madrasah Ibtidaiyah Negeri 10 Banda Aceh whom were respondents of the reasearch together with all their teachers and staff members of the school/ madrasah for their support in this study.

REFERENCES

- Abubakar & Anwar, Learning Materials In Character Education (The Analysis of the Sociology Teaching at the Senior Hight School Banda Aceh, Indonesia), 2015, Vol. 3, No. 3: 405-4016
- Ahmad Nanda Maulana, Teguh Pamuji, Miftah Falah Udwi Syarfiah, Fatih Nur Alif, Ramadhan Korlin, Sarbini, Saca Suhendi, Study On Innovation And Challenges Of Teachers In Using AI In Islamic Religious Education Learning, Urwatul Wutsqo: Jurnal Studi Kependidikan dan Keislaman, 2024, Vol. 14 No. 3: 1400-1411
- Anis Salamah & Moh Syamsul Falah, Strategi Kepala Madrasah Dalam Membangun Brand Image Madrasah, Urwatul Wutsqo: Jurnal Studi Kependidikan dan Keislaman, 2023, Vol. 13, No 2: 204-217
- Anwar, Agustina, Yani, Abubakar, Darmawati, The Relationship Between Transformational Leadership Headmaster With Teacher Performance, Jurnal Serambi Ilmu, 2024, Vol. 23(1):113-130
- Anwar, Daud, M, Abubakar, Zainuddin & Fadhila Fonna, Analisis Pengaruh Gaya Mengajar Guru Terhadap Prestasi Belajar Siswa, Jurnal Serambi Ilmu: Journal of Scientific Information and Educational Creatifity, 2020, Vol. 21, No. 1: 64-85.
- Ari Kartiko, Mauhibur Rokhman, Achmad Agus Priyono, & Susanto Susanto, Peningkatan Kinerja Guru Melalui Budaya Organisasi dan Kepemimpinan Servant Kepala Madrasah, Urwatul Wutsqo: Jurnal Studi Kependidikan dan Keislaman, 2023, Vol. 13, No1: 1-14

- Ari Setyowati (2022), Efektivitas Pembelajaran Berbasis Daring pada Mata Pelajaran Alqur'an Hadits di Madrasah Ibtidaiyah Muslimatul Ittihadziah Desa Pancur Kecamatan Keritang, <https://repository.stai-tbh.ac.id/handle/123456789/200>
- Daud M, Kuo BC, Duskri M, Jamaluddin, Zubair CM, Jalauddin. Assessing the Effectiveness of CAT and MCAT in Measuring Students' Understanding in Technology Education. *J AtTa'dib*. 2024;19(1):117-132.
- Daud, M & Mariati AR, Evaluation of Teacher's Ability in Using Technology Distance Learning in Banda Aceh City, *JURNAL SERAMBI ILMU* 2021 (2), 139-149:
- Daud, M. & Sariakin, Inovasi Pendidikan: Peluang dan Tantangan. (Natural Aceh, 2025). 43
- Daud, M., Kuo, B., Abdurahman, T., Mariati MR., Yusrizal., Sariakin. (2022). Investigating online learning implementation in Indonesia; challenges and possible solutions. *Proceeding ICMR*, 5(2), 19-26.
- Pulungan., S., Pemimpin dan Kepemimpinan dalam Perspektif Islam. Yogyakarta: Idea Press, 2015.
- Darajat. Z., dkk. Metodik Khusus Pengajaran Agama Islam. Jakarta: Bumi Aksara. 2008.
- Handoko & T. Hani. Manajemen. (Yogyakarta: BPFE, 2000).
- Kholifatun Azizah, Rahayu, Fiana & Nurkolis, Principal Leadership Strategies in Improving the Quality of Educational Services at SDN 2 Tukasari, *Jurnal Juragan*, 2026, Vol 2, No: 3: 1553-1562
- Muhammad Rizqi Ismail & Nur 'Azah, Manajemen Sarana Dan Prasana Dalam Peningkatan Mutu Pendidikan Di MTsN 1 Jombang, *Urwatul Wutsqo: Jurnal Studi Kependidikan dan Keislaman*, 2023, Vol. 12 No. 2: 434-446
- Moleong, Metodologi Penelitian Kuantitatif. (Bandung: Remaja Rosdakarya, 2019).
- Mukhtar Latif, Kasful Anwar & Wahyu Khafidah, 2017, *Pengelolaan Madrasah Bermutu*, PT. Salim Media Indonesia, Jambi
- Nata, A. Manajemen Pendidikan. Jakarta: Kencana Prenada Media. 2007.
- Nurainiah, Qurrata Akyuni & Nanda Saputra, Evaluation of Teacher Leadership in the Implementation of Independent Learning Curriculum in Secondary Education Units, *Journal of Educational Research and Evaluation* Vol 7, Issue 4, (2023), hlm. 578-586 Open Access: <https://doi.org/10.23887/jere.v7i4.61778>
- Sudjana. Metode Statistika. Bandung: Tarsito. 2000.
- Sugiyono, Metode Penelitian Pendidikan Kuantitatif, Kualitatif dan R & D. Bandung: Remaja Rosda Karya. 2017.
- Suparman. Kepemimpinan Kepala Sekolah dan Guru, (Ponorogo: Uwais Inspirasi, 2019).
- Suprihatin, Hambali, Nurlinda, Rita Zubaidah, Heru Setiawan, Wahyu Khafidah, Anisah, Arzuna, Sukatin, Miftah Hur Rahman, Replianis, Al Munip, Zamzami, Rika Ariyani, 2025, *Transformasi Manajemen Pendidikan di Era Society 5.0*, Media Publishing, Muaro Jambi
- Robbins. Manajemen. Pearson Education. 2019
- Rintho. E-Commerce: Menciptakan Daya Saing Melalui Teknologi Informasi. (Yogyakarta: Deepublish, 2018).

- Rita Inderawati, Budi Mulyono & Santi Oktarina, *Pengelolaan Kelas Digital* (Palembang, Universitas Sriwijaya 2024)
- Sugiyono. *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. (Jakarta: Alfabeta, 2017).
- Titik Lusiani, Sulistiowati, Tutut Wuriyanto, Agus Dwi Churniawan, Sutikno, *Pelatihan Artificial Intelligence (AI) untuk Meningkatkan Literasi Digital dan Kreativitas Siswa SMA Negeri 1 Srengat*, Jurnal Juragam, 2025, Vol. 2, No. 3: 576-582
- Undang-undang RI Nomor 14 Tahun 2005, tentang Guru dan Dosen, (Bandung: Fokusmedia, 2009).
- Undang-Undang Guru Dan Dosen No. 15 Tahun 2015, Pasal 1. Ayat 10. Jakarta Sinar Grafika. 2006.
- Wahyu Khafidah & Sakban, *Development Of Human Resources For Islamic Education*, Ruhama : Islamic Education Journal, 2021, Vol. 4 No. 1: 91-102
- Wahyudi. *Kepemimpinan Kepala Sekolah dalam Organisasi Pembelajaran*. Bandung: Alfabeta. 2012.
- Wahyu Khafidah, Muliana, Nurhayati, Mikyal Oktarina, Fadhilah, 2025, *Manajemen Pendidikan: Sebuah Pengantar*, PT NEM, Pekalongan-Jawa Tengah.