



Principal Strategies to Improve Teachers' Pedagogic Competence in The Digital Era

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ABSTRACT

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This study aims to analyze the role of school principals in improving teachers' pedagogical competence in the digital era through a visionary and instructional leadership. Pedagogical competence is a fundamental foundation for professional educators, particularly in addressing learning dynamics in the digital age, which demands adaptive, innovative, and transformational skills. This research uses a case study with a qualitative method to explore the processes and strategies applied to enhance teachers' pedagogical competence. The findings show that principals play a strategic role by implementing various techniques, such as educational technology training, ongoing supervision, digital infrastructure provision, and strengthening collaboration in professional learning communities. However, challenges like low digital literacy and resistance to change remain obstacles. The implications of this study highlight that the success of digital education transformation depends not only on technology but also on the quality of human resources, especially teachers, in managing learning professionally and reflectively.

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INTRODUCTION

The advancement of information technology has a broad impact on various sectors of life, including in the world of education. In today's digital era, digital transformation in learning is a must, and schools are required to be able to integrate technology into the educational process (Hidayah et al., 2024; Fahmi et al., 2024). This encourages teachers to not only master existing educational theories, but also to develop more complex pedagogical competencies, especially in utilizing technology to support effective and relevant learning to the needs of the times (Blanco-Portela et al., 2020; Holman, 2020; Tungpantong et al., 2021). The pedagogical competencies in question include the teacher's ability to design, manage, and evaluate the learning process by considering student characteristics and technological developments. Teachers are faced with the challenge of adapting learning methods to technological sophistication and the needs of an increasingly digitally literate generation.

Pedagogical competence refers to the ability possessed by an educator, such as a teacher, to plan, implement, and evaluate learning effectively (Sanchez et al., 2021). This competence includes a deep understanding of good teaching methods, as well as the ability to create a learning environment that supports student development. Several aspects that form pedagogical competence include an understanding of student characteristics, namely the teacher's ability to understand the needs, abilities, and development of students in order to provide an appropriate approach. In addition, teachers must also be able to plan relevant and interesting learning activities in order to achieve educational goals (Lyons et al., 2021; Arifin, 2024). Teachers need to have various effective learning methods and techniques and be able to manage the class by creating a conducive atmosphere and managing interactions between students and subject matter (Rais et al., 2021). Assessment and evaluation of learning are also an important part of this competence, where teachers must be able to evaluate student learning outcomes objectively to assess their understanding of the material being taught (Ansya et al., 2024; Ataman et al., 2024). In the digital era, pedagogical competence is increasingly important, because teachers are required to utilize technology in the learning process to support students in acquiring knowledge and skills in a more effective way.

In educational literature, various studies show the importance of pedagogical competence in improving the quality of learning. Pedraja et al (2020) pedagogical competence includes various skills that enable teachers to design effective learning, understand student characteristics, and manage classes well. Meanwhile, Huang et al (2020) emphasized that in this digital era, teachers must have additional skills, such as the ability to teach technology to students, adapt online learning, and understand the psychological problems experienced by students due to developments in the era. Fields et al (2021) also said something similar, stating that principals play an important role in designing strategies that can improve teachers' pedagogical competence, especially in terms of utilizing digital technology in learning.

On the other hand, the principal plays a very important role in improving the pedagogical competence of teachers. As an instructional leader, the principal must be able to design and implement strategies that support the development of these competencies. These strategies can include providing training, intensive guidance, and facilities that support the use of technology in learning. The principal also needs to have the ability to motivate education personnel to continue to develop, both in professional aspects and in adapting to the demands of technological developments in the world of education. As a leader, the principal has a responsibility not only in administrative aspects, but also in

ensuring that teachers have adequate skills in dealing with the dynamics of increasingly technology-based learning.

In this case, to meet the National Education Standards, pedagogical competence as explained in Article 28 paragraph (3) point a.6 can be further analyzed, because if all teachers truly meet the competency category, then the quality of education in this country will not be low. One of the causes is the existence of less competent educators, so that efforts to educate the nation's life are difficult to achieve, and in the end, ignorance can have an impact on poverty. The reality that often occurs is that many educators do not meet the qualifications as competent teachers, especially in terms of pedagogical competence related to the management of the learning process.

This study has great relevance because it highlights how the role of the principal in improving teachers' pedagogical competence in the digital era, an issue that has not been studied in depth. Although various previous studies have discussed the importance of pedagogical competence and the use of technology in education, the role of the principal as an agent of change in developing this competence has received little attention. This study aims to explore more deeply the leadership strategies of principals in improving teachers' pedagogical competence, especially in terms of the use of digital technology, as well as the challenges and opportunities in developing this competence. Thus, it is hoped that this study can provide a significant contribution to the development of education policies and improving the quality of learning in schools.

RESEARCH METHODS

This study describes the implementation of several problem-solving procedures studied by presenting data on strengthening teacher pedagogical competence through the role of principal leadership at MA Nurul Jadid in facing the challenges of the digital era. This study uses a qualitative approach of the case study type. The case study in this study is an in-depth study of one educational institution over a certain period of time. The case study was chosen because it can specifically reveal the dynamics of principal leadership and its impact on improving teacher competence in managing technology-based learning.

The data collection technique in this study was carried out circularly using three main approaches, namely; 1) participant observation of learning activities, digital training, and principal supervision; 2) in-depth interviews with the principal, curriculum vice principal, student affairs vice principal and educators at school 33nh7b; and 3) documentation of school policies, teacher training programs, and learning outcome evaluation data. These three techniques are used to obtain a comprehensive picture of how the principal's leadership strategy is implemented and how it impacts improving the pedagogical quality of

teachers (Fowler et al., 2020; Kruse et al., 2020; Cherkowski et al., 2021).

Data analysis in this study was carried out through three main stages, namely data reduction, data presentation, and drawing conclusions or verification. Analysis was carried out on all observation notes, interview transcripts, and other supporting documents. Data obtained through observation, interviews, and documentation were collected, selected, and grouped according to the main themes of the research, then concluded without eliminating the value and meaning of the data itself. Data presentation is a collection of structured information that allows conclusions to be drawn in policy making and action. This process reveals the overall picture of the principal's leadership strategy and its impact on improving teacher professionalism, especially in facing the demands of digital transformation.

RESULTS AND DISCUSSION

Teacher Pedagogical Competence

Pedagogical competence is a fundamental dimension that every professional educator must possess to carry out educational functions optimally. Etymologically, pedagogy comes from the Greek words “paedos,” meaning child, and “agagos,” meaning to guide. In a connotative sense, it refers to a transformative process that guides students toward the holistic development of their intellectual, emotional, and moral potential through the internalization of values, knowledge transfer, and mastery of adaptive skills relevant to the needs of the times.

In today's digital era, where technological transformation accelerates, pedagogical competence extends beyond instructional skills. It now encompasses an educator's ability to design and implement meaningful, adaptive, and contextual learning processes. This competence involves understanding students' characteristics, integrating learning theories into practices, designing responsive curricula and innovative digital media, and continuously reflecting on all stages of learning.

At Madrasah Aliyah Nurul Jadid, Principal Misbahul Munir Latib stresses the importance of pedagogical competence as a key indicator of educator professionalism. He highlights the need for teachers to not only master learning theories conceptually but also integrate technology into their practices. This includes using e-learning, interactive media, and educational social media platforms. Such a holistic integration is critical for adapting to the demands of the digital age and fostering transformative learning environments.

The Deputy Head of Curriculum, Muhammad Naim, added that regular digital literacy training and technology-based learning design are integral to strengthening pedagogical competence. Teachers are encouraged to utilize the Learning Management System (LMS), Google Workspace, and other interactive

learning tools. The strategy for enhancing pedagogical competence is proactive, focusing on building teachers' capacity to create collaborative and innovative learning environments. Table 1, this reflects the strategic role of transformative leadership in developing an inclusive and sustainable learning ecosystem.

Table 1. Aspects of Pedagogical Competence

No.	Pedagogical Competence Aspects
1	Understanding the characteristics of students
2	Mastery of educational learning theories and principles
3	Relevant curriculum development
4	Implementation of innovative learning
5	Facilitate the development of student potential
6	Empathetic and polite communication
7	Objective evaluation and assessment of learning
8	Reflective and continuous action for quality improvement

By integrating the results of interviews and relevant literature, it can be concluded that mastery of pedagogical competence is not only a professional demand, but also a moral and intellectual calling for every teacher in creating an adaptive, critical, and highly competitive generation in the digital era. Therefore, the strategy of the principal and education management must continue to be oriented towards strengthening the pedagogical capacity of teachers through continuous, collaborative, and real-needs-based coaching in the field (Pedraja et al., 2020; Fields et al., 2021; Bi et al., 2022).

The findings of this study address key questions regarding the strategies school principals employ to improve teachers' pedagogical competence in the digital age, the challenges teachers face, and the impact of digital literacy on learning outcomes. The results reveal that while significant strides have been made in integrating technology into education, there are still considerable barriers in the form of low digital literacy, resistance to change, and limited mastery of digital tools among teachers (Khotimah et al., 2024; Hasanah et al., 2024; Faiz et al., 2023). Despite ongoing efforts to train and equip educators with the necessary skills, these challenges hinder the full implementation of digital learning models. The gap in pedagogical competence, particularly in integrating technology into learning planning, highlights a critical need for continuous support, mentoring, and more targeted professional development (Lin & Shek, 2021; Melnyk et al., 2021; Hildesheim & Sonntag, 2020).

Principal's Strategy to Improve Teachers' Pedagogical Competence

The principal of MA Nurul Jadid plays a pivotal role in ensuring educational quality, not only fulfilling administrative duties but also driving change through curriculum development, academic supervision, and fostering educator professionalism. This leadership approach aligns with the views of

Tsauri & Wahidah (2023), emphasizing that a principal should be a role model in leadership, ethics, and professionalism, which creates a collaborative and effective learning environment. At MA Nurul Jadid in Figure 1, the principal actively mentors teachers and oversees classroom learning, ensuring that leadership adapts to the evolving educational landscape.

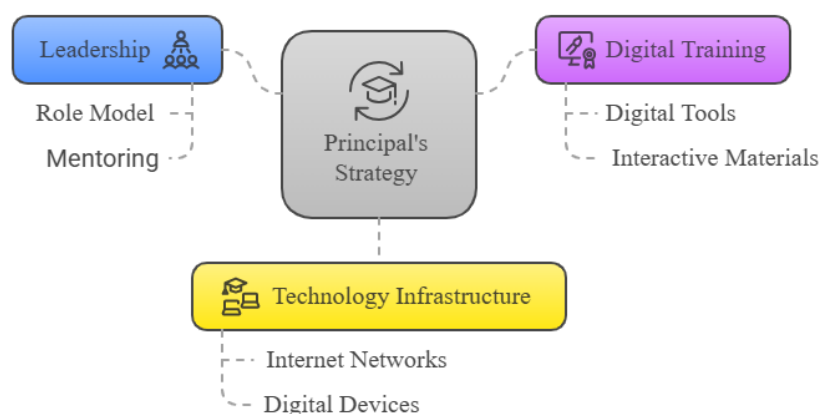


Figure 1. Principal's Strategy for Pedagogical Competence

In response to the challenges of digital education, the principal has introduced progressive steps, including training teachers in creating digital learning materials such as interactive videos and online modules. This training focuses on mastering tools like Google Workspace and e-learning platforms, helping teachers integrate technology into their teaching practices. Additionally, the school encourages the use of open educational resources and online platforms to support virtual classroom management, making it easier for teachers to engage with students and monitor their progress, as noted by Putri et al (2024). The principal's strategy also includes continuous supervision and the facilitation of digital infrastructure, such as providing reliable internet and digital devices like computers, tablets, and projectors.

These efforts, supported by structured training programs and collaborative learning communities, significantly enhance teachers' digital skills and pedagogical competence. As emphasized by Faisol (2023), the combination of adequate infrastructure and professional collaboration ensures the successful integration of technology into the learning environment, fostering a high-quality, innovative education system at MA Nurul Jadid.

The principal's strategy at MA Nurul Jadid has been crucial in addressing these challenges by providing structured training programs, offering continuous mentoring, and fostering a collaborative learning environment. The principal's proactive approach aligns with the views of Li et al (2021), who emphasize that transformative leadership is vital in guiding educators through the complexities of digital transformation. The principal's role as an instructional leader is integral

to creating an environment that encourages innovation and adaptation, making integrating technology more seamless and practical (Purwanto & Wafa, 2023). However, despite the principal's initiatives, the results also show that technology integration is not yet fully optimized due to teachers' hesitation and a lack of confidence in using new tools. This finding is consistent with the work of Qazi et al (2022), which emphasizes that teacher adaptability and confidence are key factors in overcoming resistance to digital learning methods.

The challenges identified in the survey, particularly low digital literacy and limited use of Learning Management Systems (LMS), reflect a larger issue within the educational community. As revealed by the survey at MA Nurul Jadid, a significant portion of teachers still struggle with fundamental technological skills. This finding is supported by research from Ogunsola & Mehtar (2020), who note that despite training efforts, the practical application of digital tools often falls short due to teachers' insufficient technical competence. These barriers highlight the critical role of continuous professional development and the need for tailored, hands-on training that focuses on the technical aspects and effectively integrating these tools into pedagogical practices (Andersen et al., 2020; Shaked, 2021; Jia et al., 2022).

Challenges Faced by Teachers

Teachers in the digital era face significant challenges in developing their pedagogical competence, particularly in adapting to rapid technological advancements. While various digital devices and applications are available, many teachers struggle to use them, often due to limited digital literacy effectively. This issue requires continuous efforts from educators to improve their knowledge and skills to integrate technology effectively into their teaching practices. Despite ongoing training and the provision of digital tools, several teachers at MA Nurul Jadid still experience difficulties applying digital-based learning models, as noted by the principal and the Deputy Head of Curriculum. The lack of confidence in using these tools and the resistance to change are key factors hindering the full integration of technology in the classroom.

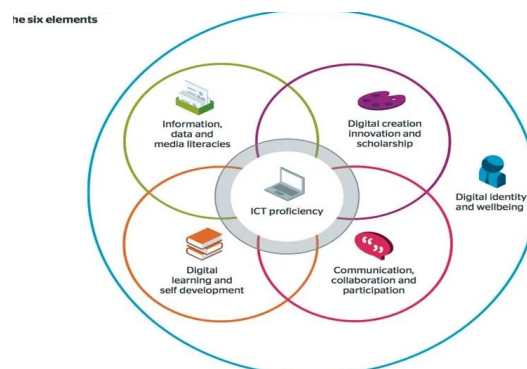
A survey conducted at MA Nurul Jadid revealed a noticeable gap in teachers' pedagogical competence in the digital age. Forty percent of teachers admitted they did not understand how to integrate technology into learning planning, and many were unfamiliar with using Learning Management Systems (LMS) or digital evaluation tools. This gap highlights the challenges posed by low digital literacy, limited mastery of technological devices, and resistance to adopting new teaching methods. Despite these challenges, teachers at the institution are open to innovation and willing to embrace new approaches to teaching, provided they are given the necessary support.

To address these issues, the principal initiated a mentoring and assistance program to Help teachers master various learning techniques and evaluate learning outcomes. This program also encourages collaboration through digital modules and internal discussion forums, where teachers can share experiences and solve problems. As a result, teachers have shown increased engagement and collaboration, creating a culture of continuous learning. This initiative has proven effective in boosting teachers' confidence in using technology and fostering a more innovative and dynamic teaching environment.

The positive impact of these strategies is evident in the student's responses, as they reported higher levels of engagement and creativity in the classroom. Technology integration has made learning more conducive and interactive, helping students grasp complex materials more easily. However, some teachers still require further training to utilize digital tools and enhance the learning experience fully. Periodic evaluations, including classroom observations, student feedback, and analysis of learning outcomes, are crucial for refining teaching methods and ensuring they meet students' needs effectively. These efforts are central to the principal's strategy of creating a dynamic and innovative learning environment, ultimately improving the quality of education at MA Nurul Jadid.



Digital Literacy



Resistance to Change



Difficulty in Using Digital Tools

Figure 2. Challenges in Digital Competence and Adaptation

The positive impact of these efforts is evident in the student responses, as they report increased engagement and a more interactive learning environment. This finding supports previous studies, such as those by Balze, (2020), highlighting the positive effects of technology integration on student participation and learning outcomes. However, for the full potential of digital learning to be realized, it is essential that teachers continue to develop their digital skills and that they receive consistent support in the form of mentoring and collaborative opportunities (Zaini & Fahmi, 2023; Zain & Mustofa, 2024; Sanjani, 2024). Periodic evaluations of teaching methods, feedback from students, and the use of learning platform analytics, as suggested by Nasrullah and Sufiyanto (2023), are crucial for refining teaching strategies and ensuring that they meet the needs of students effectively. These evaluations will also Help ensure that teachers' pedagogical competence continues to improve, fostering an adaptive and forward-thinking educational environment.

In conclusion, the findings from this study contribute to the understanding of the complex relationship between teachers' pedagogical competence and technology integration in the learning process. The results support the theory of transformational leadership in education, which underscores the importance of principal involvement in driving educational change (Melnik et al., 2021; White et al., 2022; Qushwa, 2024). The study also highlights the critical role of professional development in overcoming the challenges of digital transformation, offering valuable insights for improving teaching practices in the digital age. Moreover, it opens avenues for future research, particularly in exploring additional factors that may influence the successful integration of technology in teaching and learning beyond just technical skills.

CONCLUSION

The principal in improving teachers' pedagogical competence in the digital era, focusing on the challenges teachers face and the strategies implemented at MA Nurul Jadid. The findings reveal that while the principal's proactive strategy, including training programs, mentoring, and fostering collaborative learning, has significantly enhanced pedagogical competence, challenges such as low digital literacy, resistance to change, and limited mastery of digital tools persist. These barriers hinder the full integration of technology in the classroom. The results also highlight that teachers' confidence in digital tools remains a significant obstacle despite continuous efforts. Furthermore, the study emphasizes the importance of ongoing professional development and collaborative learning environments in overcoming these challenges. Future research could explore additional factors that influence the successful integration

of technology and provide deeper insights into the broader challenges of pedagogical competence in the digital age.

REFERENCES

- Andersen, L. L., Villadsen, E., & Clausen, T. (2020). Influence of Physical and Psychosocial Working Conditions for the Risk of Disability Pension Among Healthy Female Eldercare Workers: Prospective Cohort. *Scandinavian Journal of Public Health*, 48(4), 460–467. <https://doi.org/10.1177/1403494819831821>
- Arifin, S. (2024). Management of Ahlussunnah wal Jama'ah-Based Curriculum Development in Islamic Education Best Practice. *Educazione: Journal of Education and Learning*, 1(2), 102–115. <https://doi.org/10.61987/educazione.v1i2.499>
- Ataman, A., Fahmi, M. A., & Safitri, S. D. (2024). Exploring Complementary Leadership Styles in Madrasahs by Aiming at Their Impact on Integrity and Character Development. *Business and Applied Management Journal*, 1(2), 118–133. <https://doi.org/10.61987/bamj.v1i2.487>
- Balzer, W. K. (2020). Lean Higher Education: Increasing the Value and Performance of University Processes, Second Edition. In *Lean Higher Education: Increasing the Value and Performance of University Processes, Second Edition*. <https://doi.org/10.4324/9781351216944>
- Bi, A. S., Fisher, N. D., Bletnitsky, N., Rao, N., Egol, K. A., & Karamitopoulos, M. (2022). Representation of Women in Academic Orthopaedic Leadership: Where Are We Now? *Clinical Orthopaedics and Related Research*, 480(1), 45–56. <https://doi.org/10.1097/CORR.0000000000001897>
- Blanco-Portela, N., del Álamo, J. B., & Gutiérrez-Pérez, J. (2020). Action-Participatory Research for the University Teachers Training on Education for Sustainability: “Academy Sustainability Latin America.” *Profesorado*, 24(3), 99–123. <https://doi.org/10.30827/PROFESORADO.V24I3.15555>
- Cherkowski, S., Kutsyuruba, B., Walker, K., & Crawford, M. (2021). Conceptualising Leadership and Emotions in Higher Education: Wellbeing as Wholeness. *Journal of Educational Administration and History*, 53(2), 158–171. <https://doi.org/10.1080/00220620.2020.1828315>
- Fahmi, M. A., Ridlo, M. H., & Yanti, L. S. (2024). Investigating the Holistic Management in Increasing Graduates' Competence in Madrasah Based on Pesantren. *Pedagogik: Jurnal Pendidikan*, 10(2), 226–239. <https://doi.org/10.33650/pjp.v10i2.7170>

- Faisol, M. (2023). Internalization of Islamic Teaching Values in Forming Students with Siddiq, Amanah, Tablig, and Fatonah Characters. *Journal of Social Studies and Education*, 1(2), 10–18.
- Faiz, H., Al-Amin, M. F., & Mundiri, A. (2023). Transforming Organizational Quality Through Effective Administrative Training. *Communaautaire: Journal of Community Service*, 2(2), 157-167. <https://doi.org/10.61987/communaautaire.v2i2.352>
- Fields, L., Trostian, B., Moroney, T., & Dean, B. A. (2021). Active Learning Pedagogy Transformation: A Whole-of-School Approach to Person-Centred Teaching and Nursing Graduates. *Nurse Education in Practice*, 53. <https://doi.org/10.1016/j.nepr.2021.103051>
- Fowler, T., Garr, D., Mager, N. D. Pietro, & Stanley, J. (2020). Enhancing Primary Care and Preventive Services Through Interprofessional Practice and Education. *Israel Journal of Health Policy Research*, 9(1). <https://doi.org/10.1186/s13584-020-00371-8>
- Hasanah, U., Fauzi, M. N., & Abrori, M. (2024). The Role of School Environment in Maintaining the Consistency of Hijab Wearing in Students: Social Challenges and Solutions for Religious Education in the Modern Era. *Journal of Social Studies and Education*, 1(2), 100-112. <https://doi.org/10.61987/jsse.v1i2.392>
- Hidayah, H., Qushwa, F. G., Munawwaroh, I., Putri, D. F., & Hasanah, R. (2024). Leadership Transformation and Organizational Strengthening in Improving Collaboration and Operational Effectiveness of Islamic Boarding Schools. *Journal of Social Studies and Education*, 1(2), 126–139.
- Hildesheim, C., & Sonntag, K. (2020). The Quality Culture Inventory: A Comprehensive Approach Towards Measuring Quality Culture in Higher Education. *Studies in Higher Education*, 45(4), 892–908. <https://doi.org/10.1080/03075079.2019.1672639>
- Holman, H. R. (2020). The Relation of the Chronic Disease Epidemic to the Health Care Crisis. *ACR Open Rheumatology*, 2(3), 167–173. <https://doi.org/10.1002/acr2.11114>
- Huang, Y., Liu, L., & An, L. (2020). Are the Teachers and Students Satisfied: Sustainable Development Mode of Entrepreneurship Education in Chinese Universities? *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.01738>
- Jia, K., Zhu, T., Zhang, W., Rasool, S. F., Asghar, A., & Chin, T. (2022). The Linkage Between Ethical Leadership, Well-Being, Work Engagement, and Innovative Work Behavior: The Empirical Evidence From the Higher Education Sector of China. *International Journal of Environmental Research and Public Health*, 19(9). <https://doi.org/10.3390/ijerph19095414>

- Khotimah, H., Manshur, U., Zaini, A. W., & Suhermanto, S. (2024). Increasing the Competence of Islamic Religious Education Teachers from a Madrasah-Based Management Perspective. *Managere: Indonesian Journal of Educational Management*, 6(1), 13-26. <https://doi.org/10.52627/managere.v6i1.388>
- Kruse, S. D., Hackmann, D. G., & Lindle, J. C. (2020). Academic Leadership During a Pandemic: Department Heads Leading with a Focus on Equity. *Frontiers in Education*, 5. <https://doi.org/10.3389/feduc.2020.614641>
- Li, B., Jacob-Brassard, J., Dossa, F., Salata, K., Kishibe, T., Greco, E., Baxter, N. N., & Al-Omran, M. (2021). Gender Differences in Faculty Rank Among Academic Physicians: A Systematic Review and Meta-Analysis. *BMJ Open*, 11(11). <https://doi.org/10.1136/bmjopen-2021-050322>
- Lin, L., & Shek, D. T. L. (2021). Serving Children and Adolescents in Need During the COVID-19 Pandemic: Evaluation of Service-Learning Subjects with and Without Face-to-Face Interaction. *International Journal of Environmental Research and Public Health*, 18(4), 1–16. <https://doi.org/10.3390/ijerph18042114>
- Lyons, O., George, R., Frich, J., & Geerts, J. M. (2021). Evidence-Based Medical Leadership Development: A Systematic Review. *BMJ Leader*, 5(3), 206–213. <https://doi.org/10.1136/leader-2020-000360>
- Melnyk, B. M., Hsieh, A. P., Tan, A., & Buck, J. (2021). Psychometric Properties of the Short Versions of the EBP Beliefs Scale, the EBP Implementation Scale, and the EBP Organizational Culture and Readiness Scale. *Worldviews on Evidence-Based Nursing*, 18(4), 243–250. <https://doi.org/10.1111/wvn.12525>
- Ogunsola, F. T., & Mehtar, S. (2020). Challenges Regarding the Control of Environmental Sources of Contamination in Healthcare Settings in Low- and Middle-Income Countries-A Narrative Review. *Antimicrobial Resistance and Infection Control*, 9(1). <https://doi.org/10.1186/s13756-020-00747-0>
- Pedraja, L. M. R., Marchant, C. J. E., & Muñoz-Fritis, C. P. (2020). Leadership and Organizational Culture as Influencing Factors in the Quality of Higher Education: Conceptual Analysis. *Formacion Universitaria*, 13(5), 3–14. <https://doi.org/10.4067/S0718-50062020000500003>
- Purwanto, A., & Wafa, A. (2023). Interpersonal Communication Strategies in Building an Image of Contingency Perspective of Accommodation. *Managere: Indonesian Journal of Educational Management*, 5(3), 267-279. <https://doi.org/10.52627/managere.v5i3.281>
- Putri, D. F., Agus R, A. H., & Baharun, H. (2024). Behaviour Management in the Classroom: Improving the Quality of Education Through Systematic Optimization of the Learning Environment. *FALASIFA: Jurnal Studi Keislaman*, 15(1), 35–47. <https://doi.org/10.62097/falasifa.v15i1.1787>

- Qazi, Z., Qazi, W., Raza, S. A., & Yousufi, S. Q. (2022). The Antecedents Affecting University Reputation and Student Satisfaction: A Study in Higher Education Context. *Corporate Reputation Review*, 25(4), 253–271. <https://doi.org/10.1057/s41299-021-00126-4>
- Rais, R. N. Bin, Rashid, M., Zakria, M., Hussain, S., Qadir, J., & Imran, M. A. (2021). Employing Industrial Quality Management Systems for Quality Assurance in Outcome-Based Engineering Education: A Review. *Education Sciences*, 11(2), 1–24. <https://doi.org/10.3390/educsci11020045>
- Sanchez, J. C., Cadarso, M. A., & Tobarra, M. A. (2021). Embracing Higher Education Leadership in Sustainability: A Systematic Review. *Journal of Cleaner Production*, 298. <https://doi.org/10.1016/j.jclepro.2021.126675>
- Shaked, H. (2021). Instructional Leadership in Higher Education: The Case of Israel. *Higher Education Quarterly*, 75(2), 212–226. <https://doi.org/10.1111/hequ.12274>
- Sanjani, M. A. F. (2024). The Impact of School Principals on Graduate Quality Through Character Education Initiatives. *Journal of Educational Management Research*, 3(1), 30-46. <https://doi.org/10.61987/jemr.v3i1.347>
- Tungpantong, C., Nilsook, P., & Wannapiroon, P. (2021). A Conceptual Framework of Factors for Information Systems Success to Digital Transformation in Higher Education Institutions. In *2021 9th International Conference on Information and Education Technology, ICIET 2021* (pp. 57–62). <https://doi.org/10.1109/ICIET51873.2021.9419596>
- White, S. M., Shelton, C. L., Gelb, A. W., & Nilo Schultz, C. (2022). Principles of Environmentally-Sustainable Anaesthesia: A Global Consensus Statement from the World Federation of Societies of Anaesthesiologists. *Anaesthesia*, 77(2), 201–212. <https://doi.org/10.1111/anae.15598>
- Zain, B., & Mustofa, M. L. (2024). Islam and Local Wisdom: Integration of Local Values in Islamic Thought. *Journal of Social Studies and Education*, 2(1), 27-43. <https://doi.org/10.61987/jsse.v2i1.567>
- Zaini, A. W., & Fahmi, M. A. (2023). Improving Islamic Religious Education Teachers' Performance Through Effective School Leadership. *AFKARINA: Jurnal Pendidikan Agama Islam*, 8(1), 12-24. <https://doi.org/10.33650/afkarina.v8i1.5331>