

BENCHMARKING

JURNAL MANAJEMEN PENDIDIKAN ISLAM

THE SCHOOL PRINCIPAL'S LEADERSHIP STRATEGY IN ENHANCING THE PERFORMANCE OF SCHOOL OPERATORS IN MANAGING DAPODIK: A CASE STUDY AT SMAN 1 MUARA BATU

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Abstract

This study aims to investigate strategic planning, explore patterns of positive communication, identify technical guidance, and examine the supporting and inhibiting factors faced by the principal in improving the performance of school operators in managing the Education Primary Data (DAPODIK) at SMAN 1 Muara Batu. The research employs a qualitative approach with a case study method. Data were collected through interviews, observations, and documentation. The findings indicate that strategic planning was carried out systematically and in a collaborative manner, involving school operators from the initial stages. The principal fostered positive communication through an open, empathetic, and dialogue-based approach, which helped establish a collaborative working environment. Technical guidance was provided through training, assistance, and structured supervision in the form of mentoring and coaching. Key supporting factors for the success of DAPODIK management include adequate infrastructure, flexible school policies, and inter-unit collaboration. However, several challenges were also identified, such as limited internet access, system-related technical issues, and the dual workload of school operators. Overall, the leadership strategies implemented by the principal positively impacted the competence and performance of school operators and can serve as a best practice model for digital-based education data governance in secondary education institutions.

Keywords: Leadership Strategy, Principal, School Operator

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INTRODUCTION

As leaders of educational institutions, school principals hold a major responsibility in ensuring the effective management of the Basic Education Data System (DAPODIK) in their schools. School operators, who are responsible for managing data in the DAPODIK system, play a strategic role in maintaining the accuracy and validity of school data (Hasanah et al., 2024). The management of educational data is a crucial aspect in supporting administrative processes and policy-making in schools (Ifenthaler et al., 2023). One of the information systems used by the Indonesian government is DAPODIK.

The DAPODIK system functions as the main database supporting various educational programs such as the allocation of School Operational Assistance (BOS) funds, the distribution of teacher allowances, as well as the monitoring and evaluation of education

policies (Ministry of Education and Culture, 2015). Therefore, school leadership becomes a key factor in improving the performance of school operators in carrying out their duties effectively.

School principals play a crucial role in educational institutions. As educational leaders, principals are responsible for managing various school activities, including the management of human resources and facilities and infrastructure (Sulastri, 2021). One of the principal's main functions is as an educator. According to Mulyasa, the principal, as an educator, must be competent in guiding teachers, non-teaching education personnel, and students. In addition, the principal is also responsible for developing educational personnel, keeping up with advances in science and technology, and setting an example in learning activities.

As a strategic step to improve education quality, school principals are required to adapt to the changing times, especially in responding to the advancement of digital technology. Digital transformation has become a key element in building an adaptive and responsive education system suited to the needs of the 21st century. Visionary school leadership is essential to drive positive change in schools, including fostering a culture of technology in educational management (Leithwood & Azah, 2017). In this context, the school principal serves not only as an administrator but also as a transformational leader who can inspire and guide the entire school community toward a high-quality and future-oriented educational vision.

The use of digital technology in school management—such as e-administration applications, academic information systems, and collaborative platforms—has proven to enhance work efficiency and administrative transparency (Ifinedo & Usoro, 2021). Furthermore, technology plays a vital role in supporting data-driven decision-making and facilitating communication between schools, parents, and the community. Tondeur et al. (2016) emphasize that principals' support for the professional development of teachers in information and communication technology (ICT) is a key factor in the successful implementation of technology. Therefore, the principal's strategies in building a digital ecosystem in schools must be comprehensively and sustainably designed.

In the learning process, the principal's role is also essential in ensuring the meaningful integration of technology—not just as a superficial addition. The use of technology such as Learning Management Systems (LMS), interactive media, and online learning resources enables active, collaborative, and contextual learning. According to Schleicher (2018), leading schools around the world adopt this approach to improve digital competence and encourage student creativity and problem-solving skills. As instructional leaders, principals must encourage teachers to use technology innovatively following frameworks like the Substitution, Augmentation, Modification, Redefinition (SAMR) model (Puentedura, 2006, in Ng, 2015), which leads to a redefinition of the learning process. Thus, adapting to technology is not merely a demand of the times but a concrete strategy to enhance the overall quality of education.

Strategy can be understood as a collection of ideas, decisions, and actions that enable an organization to achieve its goals successfully. The development of creative and innovative ideas plays a vital role in facilitating decision-making that benefits the organization (Fadhli, 2020). Accordingly, in the context of school leadership, strategies formulated by principals encompass a series of ideas, policies, and actions based on analyses of internal and external factors to support the optimal achievement of educational objectives.

In fulfilling their role as educators, principals must implement effective strategies to enhance the professionalism of educational personnel. These strategies include creating a conducive school climate, providing guidance and motivation to all school stakeholders, and adopting innovative learning models such as team teaching, moving classes, and

acceleration programs for gifted students (Pohan, 2018). Therefore, school principals play a significant role, particularly in guiding teachers and educational staff to perform their duties optimally in line with the school's vision and mission, especially in addressing challenges in the current digital era.

In addition to their role as educators, school principals also serve as managers within the school environment. Principals must be able to formulate strategies aligned with both internal and external conditions. Strategies in school management involve defining the organizational mission, setting goals aligned with internal and external dynamics, and developing policies that support the effective achievement of objectives (Bahar, 2022).

Ifenthaler et al. assert that the integration of technology in education has significantly changed delivery methods and learning experiences for teachers, staff, and students. One major aspect of this transformation is the digitalization of educational organizations, including the use of digital technologies in teaching, learning, and administration (Subroto et al., 2023).

In educational institutions—particularly schools—the quality of education is determined not only by the role of principals, teachers, and students but also by educational personnel who have strategic roles in supporting the optimization of education quality. One of the primary roles of educational personnel is that of school operators in managing the DAPODIK system to ensure it functions effectively and efficiently (Hasanah et al., 2024).

Each educational institution is required to input and update data reflecting the school's current conditions into the DAPODIK system to ensure valid, accurate, up-to-date, complete, and timely information. Therefore, school operators hold a crucial role in data collection and are the primary users of the DAPODIK application (Hasanah et al., 2024).

The importance of educational personnel in school administration is also emphasized in Law No. 20 of 2003 on the National Education System, Article 39 Paragraph (1), which states that “Educational personnel are responsible for carrying out administration, management, development, supervision, and technical services to support the educational process in educational units.” Based on this provision, school operators are the personnel responsible for school administration. Ministerial Regulation No. 24 of 2008 concerning Standards for School/Madrasah Administrative Personnel stipulates that school administrative staff consists of head administrators, office clerks, and special service officers. The office clerks handle human resources, finance, infrastructure, public relations, correspondence and archives, student affairs, curriculum, and general administration for primary schools, madrasah ibtidaiyah, and special needs schools. Meanwhile, special service officers include janitors, gardeners, drivers, and couriers (Republic of Indonesia, 2003).

According to this regulation, anyone appointed as a school or madrasah administrative staff member must meet nationally applicable standards. Therefore, the school administrative system must adapt to developments in the digital era, especially in response to the demands of the Industrial Revolution 4.0, which calls for digitally-based services. Schools are not only responsible for admitting, educating, and graduating students but also for providing integrated administrative services that align with technological advancements (Minister of National Education, 2008).

One data-based information technology used in educational institutions is the DAPODIK system. This system is used to manage school data and is essential for presenting data to relevant agencies. The input data includes information about teachers and educational staff, students, school conditions, sanitation, learning groups, infrastructure, and other educational aspects (Hasanah et al., 2024). This aligns with Ministerial Regulation No. 79 of 2015 on Basic Education Data, Article 1 Paragraph (2), which defines DAPODIK as a data system managed by the Ministry of Education and Culture. The system includes information on educational institutions, students, educators,

educational staff, and educational content, which is updated regularly and online (Ministry of Education and Culture, 2015).

Based on this phenomenon, it can be concluded that, in addition to school principals, school operators also play a very important role in educational institutions. Therefore, as educational leaders, principals must be able to optimize the performance of school operators so that their tasks can be carried out effectively. Stolovitch and Keeps in Nursam (2017) define performance as a set of results achieved and actions taken to fulfill assigned work (Nursam, 2017).

Meanwhile, Hersey and Blanchard (1990) in Kurniawan (2024) state that performance is a function of motivation and ability. To perform a task or job well, a person must possess adequate readiness and skills. However, this readiness and skill will not be effective without a clear understanding of the tasks to be performed and how to perform them. Therefore, to maximize the potential of educational personnel in carrying out their duties, school principals must apply strategies that align with the school's conditions and environment.

According to Selvi (2023), the performance of school operators is influenced by three main factors: information technology proficiency, work facilities, and the work environment. IT proficiency is essential for enhancing competence and work efficiency, which can be developed through training and mentoring. Adequate work facilities, such as computers and internet access, support the smooth management of DAPODIK data. A conducive work environment also promotes productivity, as operators are responsible for ensuring accurate and accountable data collection. Thus, these three factors play a critical role in supporting the effectiveness of school operators' work.

The use of DAPODIK represents a strategic step in the management of educational data in Indonesia. For example, at Muara Batu Senior High School (SMAN) in North Aceh, DAPODIK functions as an information system that collects and manages data on students, educational personnel, and infrastructure. The accuracy and reliability of the resulting data depend heavily on the performance of school operators in managing the system. According to the Ministry of Education and Culture (Kemendikbud, 2021), valid and accurate data is a crucial element in educational planning and decision-making. Therefore, optimizing the performance of school operators in managing DAPODIK is a key factor in supporting a high-quality education system.

The importance of DAPODIK operators' performance cannot be separated from the role of school principals as leaders of educational institutions. Principals are responsible for ensuring that all systems, including DAPODIK, are utilized optimally. With the right strategies, principals can enhance the performance of operators in using DAPODIK. This aligns with findings from a study by Sari et al. (2024), which indicate that principal support and guidance can improve the effectiveness of DAPODIK usage in schools.

Unlike previous studies that focused on principals' strategies to improve teacher performance or the teaching and learning process, this study focuses on principals' strategies to improve the performance of school operators in using DAPODIK. As an educational institution that has adopted an information technology system for data management, SMAN Muara Batu requires school operators who are responsible for administrative duties, particularly in school data management.

School operators are responsible for entering, managing, and storing data related to educators, students, classrooms, infrastructure, and other educational information. Therefore, in today's digital era, school operators must have a solid understanding of the DAPODIK application and be able to use it effectively. Based on this background, this study aims to analyze the strategies used by the principal of SMAN Muara Batu to improve the performance of school operators in managing DAPODIK.

SMAN 1 Muara Batu is one of the schools that has implemented the DAPODIK system in its educational data management. However, in practice, school operators face various challenges such as limited technical competencies, lack of training, and infrastructure constraints (Selvi, 2023). Therefore, this study aims to analyze the school principal's leadership strategies in improving the performance of school operators in managing DAPODIK at SMAN 1 Muara Batu.

RESEARCH METHOD

This study employs a qualitative approach using a case study method. The research will be conducted at SMAN 1 Muara Batu, located in North Aceh Regency, Aceh Province. The study is scheduled to take place in April 2025 and will involve several stages, including data collection through observation, in-depth interviews, and document analysis.

The research subjects consist of five individuals selected purposively due to their direct involvement in the management and utilization of educational data at the school. They include one principal who acts as a strategic leader in data-driven decision-making, one school operator responsible for managing the Basic Education Data System (DAPODIK), and three teachers who are actively involved in the input, utilization, and validation of educational data.

Data collection techniques used in this study include interviews, documentation, and observation. Data analysis will be carried out using a thematic analysis approach based on the model proposed by Braun and Clarke (2006).

RESEARCH RESULTS AND DISCUSSION

Research Results

Principal's Strategic Planning

The Principal of SMAN 1 Muara Batu initiates the strategic planning process through a systematic and data-driven approach. The first step taken is an in-depth analysis of the school's internal conditions. In an interview, the principal explained, "We conducted a mapping of human resources, assessed the readiness of tools and systems, and evaluated previous DAPODIK input results to identify internal strengths and weaknesses." This process included reviewing the competence of administrative staff, the effectiveness of hardware and software utilization, and the accuracy and compliance of previously entered data with central government requirements. Through this process, the principal was able to identify areas in need of improvement and aspects that could serve as the foundation for formulating a strategic enhancement plan.

In addition to analyzing internal factors, the principal also considers various external factors that influence the implementation of DAPODIK management. He stated, "We take into account policies from the Education Office, the development of the DAPODIK application, and the readiness of network infrastructure in the surrounding area." This demonstrates an awareness of the importance of keeping up with current policy dynamics, including updates to the DAPODIK application that require technical adaptation, as well as ensuring adequate internet access as a key enabler for online data entry.

The formulation of the school's vision and mission is carried out in a participatory and collaborative manner, rather than imposed through a top-down approach. The principal emphasized the importance of involving all school stakeholders in the process. "The vision and mission were developed through school committee meetings involving vice principals, teachers, the school operator, and parent representatives, to ensure alignment with contemporary needs," he stated. Through this process, the vision and mission are not merely formal documents but serve as shared strategic directions that guide every school policy, including the management of educational data.

The principal's operational strategy includes the development of detailed and practical Standard Operating Procedures (SOPs) for DAPODIK management, the assignment of a dedicated operator with digital competencies, and the implementation of internal training tailored to the latest needs and developments. Evaluation is carried out routinely and continuously. "Evaluations are conducted monthly through coordination meetings and reviews of the operator's work reports, along with feedback from the administrative team," the principal explained. These coordination meetings serve as a platform to monitor work progress, resolve technical challenges, and ensure the consistency and validity of the data entered into the DAPODIK system.

Through this comprehensive and collaborative approach, the principal of SMAN 1 Muara Batu has successfully established a more structured educational data management system—one that is responsive to change and capable of supporting overall improvements in school governance quality.

Principal's Positive Communication

In fulfilling his leadership duties, the Principal of SMAN 1 Muara Batu places communication as the primary foundation for building healthy and productive working relationships. He adopts a polite, persuasive, and open communication approach as a strategy to create a comfortable and respectful work environment. "I use polite, persuasive, and open language to foster a pleasant and respectful workplace," he explained. This approach not only enhances staff harmony but also strengthens trust and loyalty toward the principal's leadership.

When dealing with problems—particularly data entry errors in the DAPODIK system—the principal avoids a blaming approach and instead focuses on providing solutions and strengthening capacity. "For instance, when there's a data input error, I respond with a solution and offer training so it won't happen again," he stated. This reflects a commitment to cultivating an educational and supportive work culture, where mistakes are viewed as learning opportunities rather than grounds for punishment.

The principal's concern for staff is also evident in his direct involvement in resolving team issues. He shared, "I try to be present and listen directly to staff concerns, then find solutions together—even stepping in when the situation is urgent." This action demonstrates an inclusive and participative leadership style, where the principal is not only a top-down decision-maker but also willing to engage hands-on when needed.

To support two-way communication, the principal provides various facilities such as weekly discussion forums and a digital suggestion box accessible at any time. "We hold weekly discussion sessions and have a digital suggestion box," he noted. These platforms

allow school stakeholders to express ideas, feedback, or complaints—reflecting a democratic and adaptive organizational culture.

According to the principal, open communication significantly impacts staff morale and initiative. “Open communication makes staff more enthusiastic, feel appreciated, and confident to voice ideas or concerns,” he remarked. Such an environment boosts performance, strengthens collaboration, and encourages bottom-up innovation, as each individual feels valued and involved in the school’s development process.

Through empathetic, open, and solution-oriented communication, the principal has successfully built a conducive work climate, strengthened team loyalty, and improved the effectiveness of educational data management in the school.

Principal’s Technical Guidance

The Principal of SMAN 1 Muara Batu places great emphasis on enhancing human resource capacity—especially that of the DAPODIK operator—through planned and ongoing training programs. In the interview, he explained that training is conducted both internally and externally. “We hold internal training at the start of each semester and participate in training organized by the Education Office when available,” he said. Internal training is tailored to the school’s specific needs, while training from the Education Office helps update skills in line with new policies and technologies.

Support for the operator is not only formal but also involves the principal's direct assistance during critical moments. “I directly assist the operator at the beginning of the academic year and during DAPODIK system updates,” he noted. This hands-on approach demonstrates a proactive and supportive leadership style, while also providing opportunities for direct discussion and consultation on-site.

To make training more effective, various learning methods are used. The principal stated, “We combine lectures, live simulations, and hands-on data input practice using real-life case studies.” This approach allows participants to not only understand data management concepts but also build practical skills relevant to their daily tasks.

The benefits of the training are clearly evident in the improved performance of the operator. “The operator is now faster and more accurate in data entry and capable of solving technical problems independently,” said the principal. This improvement directly enhances data management effectiveness, reduces the risk of input errors, and improves responsiveness to system changes.

Evaluation of the training’s effectiveness is also carried out using various methods to gain a comprehensive picture. “We evaluate through simulation tests, direct observation, and analysis of the operator’s post-training reports,” he explained. These combined methods help assess cognitive understanding, technical skills, and the operator’s consistency over time.

The integration of structured training, direct mentoring, and continuous evaluation reflects the principal’s strong commitment to building a professional, accountable, and adaptive DAPODIK management system aligned with the latest developments in educational technology.

Supporting and Inhibiting Factors

The Principal of SMAN 1 Muara Batu believes that the human resources involved in DAPODIK management generally possess adequate competencies. “Overall, the capacity is sufficient, but regular technical knowledge updates are still needed,” he remarked. This indicates that while basic skills are present, the principal continues to encourage ongoing capacity building so that operators can keep pace with technological and regulatory changes.

In terms of infrastructure, the school is equipped with sufficient resources to support data management activities. However, the principal acknowledged some shortcomings that require attention. “We have adequate equipment, but we still need better internet connectivity and regular hardware maintenance,” he explained. This highlights the importance of sustained investment in technological infrastructure to ensure smooth data input and synchronization without technical disruptions.

To ensure continuity and clarity in workflow, the school has implemented operational policies to support optimal DAPODIK implementation. “The school has developed specific policies outlining the operator’s duties, data input schedule, and reporting procedures,” said the principal. These internal regulations help prevent task overlaps, ensure timely data entry, and maintain accountability through structured reporting mechanisms.

The principal also emphasized the importance of support from various stakeholders in the data management process. “Teachers, homeroom teachers, and parents help validate student data. The school committee also supports us by providing resources,” he noted. This active stakeholder involvement strengthens the accuracy and reliability of data validation processes and fosters synergy between the school and the broader community.

Nonetheless, despite these efforts and support mechanisms, several challenges continue to hinder DAPODIK management. “We often face technical issues with the central DAPODIK system, slow internet, and overlapping workloads for the operator,” he shared. Technical disruptions from the central system remain a significant obstacle beyond the school’s control, while poor connectivity and heavy workloads directly impact the operator’s efficiency.

Overall, the efforts of the Principal of SMAN 1 Muara Batu demonstrate a strong commitment to systematic DAPODIK management, with attention to human resource competence, infrastructure quality, supportive policies, and stakeholder collaboration. However, ongoing technical and structural challenges must continue to be addressed through collaborative and sustainable solutions.

CONCLUSION

Based on the findings and discussion in Chapter IV, it can be concluded that the planning strategy implemented by the Principal of SMAN 1 Muara Batu is carried out in a structured, contextual, and participatory manner, involving all school components—including the DAPODIK operator—in strategic decision-making processes. This strategy not only aligns the school’s vision and mission with the demands of administrative digitalization in education but also strengthens organizational cohesion through the active engagement of all stakeholders. The direct implication of this approach is reflected in the

increased technical understanding, preparedness, and work motivation of the operators in managing educational data in a more systematic and accurate manner.

The communication built by the Principal is open, assertive, and empathetic, indicating a healthy and productive working relationship. This communication approach is supported by regular supervision, technical training, as well as continuous mentoring and coaching practices, all of which have collectively contributed to enhancing the operators' competencies both technically and professionally. This leadership style reflects the characteristics of transformational and adaptive leadership, which is not only results-oriented but also focuses on empowering human resources as the main driver of organizational change.

The successful management of the DAPODIK system is also supported by several enabling factors, including the availability of adequate facilities and infrastructure, flexible and responsive internal policies, and solid cross-unit collaboration. However, there are still several challenges, such as limited internet access, technical disruptions at the central system level, and overlapping workloads of the operators, which remain ongoing obstacles in the process of digitalizing school-level educational administration.

Overall, the performance of school operators has shown significant progress, particularly in terms of timely data input, information accuracy, compliance with regulations, and the ability to resolve technical problems independently. These achievements are the tangible results of a visionary, collaborative, and data-driven leadership strategy. These findings affirm that the leadership strategy applied by the Principal of SMAN 1 Muara Batu has not only succeeded in optimizing DAPODIK management but is also worthy of being considered a best practice model in the development of digital-based educational data governance systems in secondary schools.

REFERENCES

- Angrosino, M. (2007). *Doing ethnographic and observational research*. SAGE.
- Auliya, F. (2020). Pengaruh penguasaan teknologi informasi terhadap kinerja operator sekolah dalam pengelolaan data pendidikan. *Jurnal Teknologi Pendidikan*, 8(2), 45–56.
- Bandura, A. (2019). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd Ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Bush, T. (2018). *Theories of educational leadership and management* (5th Ed.). Sage Publications.
- Chasanah, N. (2020). Strategi kepemimpinan kepala sekolah dalam meningkatkan kinerja tenaga administrasi sekolah. *Jurnal Pendidikan*, 8(2), 123–135.
- Chasanah, S. N. (2020). Kompetensi managerial kepala sekolah dalam meningkatkan kinerja guru di SMP Negeri 9 Purworejo. *Ar-Rihlah: Jurnal Inovasi Pengembangan Pendidikan Islam*, 5(1), 84–103.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE.

- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th Ed.). SAGE.
- Fadhli, M. (2020). Implementasi manajemen strategik dalam lembaga pendidikan. *Continuous Education: Journal of Science and Research*, 1(1), 11–23.
- Fadhli, M. (2020). Manajemen kepemimpinan kepala sekolah dalam meningkatkan mutu pendidikan. *Jurnal Manajemen Pendidikan*, 10(1), 45–57.
- Firda, A. (2020). Pengaruh penguasaan teknologi informasi terhadap kinerja operator sekolah. *Jurnal Pendidikan dan Teknologi*, 5(3), 123–134.
- Flick, U. (2013). *The SAGE handbook of qualitative data analysis*. SAGE Publications.
- Fullan, M. (2020). *Leading in a culture of change*. San Francisco, CA: Jossey-Bass.
- Glickman, C. D., Gordon, S. P., & Ross-Gordon, J. M. (2021). *SuperVision and instructional leadership: A developmental approach* (10th Ed.). Pearson.
- Goleman, D. (2022). *Emotional intelligence: Why it can matter more than IQ*. Bantam.
- Handayani, R., Susanto, T., & Ramadhani, A. (2023). Kendala teknis pengelolaan DAPODIK di sekolah dasar. *Jurnal Sistem Informasi Pendidikan*, 5(2), 101–110.
- Hasanah, N., dkk. (2024). JIIC: *Jurnal Intelek Insan Cendikia*, 1(6), 2451–2460.
- Hoy, W. K., & Miskel, C. G. (2022). *Educational administration: Theory, research, and practice*. McGraw-Hill.
- Ifenthaler, D., Yau, J. Y. K., & Yang, L. (2023). Digital transformation in education: Critical factors and frameworks. *British Journal of Educational Technology*, 54(1), 12–28.
- Ifinedo, E., & Usoro, A. (2021). Digital leadership in schools: Practices and challenges. *Education and Information Technologies*, 26, 6043–6062.
- Koenecke, A., Lake, E., Rathod, H., & Goel, S. (2024). Racial disparities in automated speech recognition. *Proceedings of the National Academy of Sciences*, 121(5), 1–8.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing* (2nd Ed.). SAGE.
- Leithwood, K., & Azah, V. N. (2017). Characteristics of effective leadership networks: Evidence from research and practice. *Leadership and Policy in Schools*, 16(4), 540–567.
- Leithwood, K., Harris, A., & Hopkins, D. (2019). Seven strong claims about successful school leadership revisited. *School Leadership & Management*, 39(1), 1–18.
- MacWhisper. (n.d.). MacWhisper interface for file-based transcription using Whisper AI [Screenshot]. OpenAI Whisper GUI via MacWhisper.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. Jossey-Bass.
- Mintzberg, H. (2018). *Strategy safari: A guided tour through the wilds of strategic management* (2nd ed.). Pearson Education.
- Mulyasa, E. (2018). *Manajemen berbasis sekolah: Konsep, strategi, dan implementasi*. Bumi Aksara.
- Ng, W. (2015). *New digital technology in education: Conceptualizing professional learning for educators*. Springer.
- Northouse, P. G. (2022). *Leadership: Theory and practice* (9th ed.). SAGE Publications.
- Nurhadi, H. (2021). Pengaruh kepemimpinan transformasional terhadap kinerja operator sekolah. *Jurnal Kepemimpinan Pendidikan*, 7(2), 33–47.
- Nurmiati. (2019). Faktor-faktor yang mempengaruhi kinerja operator sekolah dalam pengelolaan data pendidikan. *Jurnal Pendidikan*, 7(1), 55–65.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th Ed.). SAGE.

- Putra, A. (2023). Kontrol dan monitoring kepala sekolah dalam meningkatkan efisiensi pengelolaan data pendidikan. *Jurnal Supervisi Pendidikan*, 15(1), 67–80.
- Quipper. (2021). Fungsi dan tugas kepala sekolah sebagai pimpinan satuan pendidikan.
- Rahmawati, D., & Yusri, M. (2022). Dukungan sarana dan prasarana dalam menunjang kinerja operator sekolah. *Jurnal Administrasi Pendidikan*, 14(4), 211–225.
- Robbins, S. P., & Judge, T. A. (2021). *Organizational behavior* (18th ed.). Pearson.
- Rosya, N. N. (2019). Peran kepemimpinan kepala sekolah dalam meningkatkan kinerja guru di SMA Islam Cendikia Bandar Lampung.
- Saputra, H. (2023). Kinerja operator sekolah dalam pengelolaan sistem DAPODIK. *Jurnal Teknologi Pendidikan*, 11(1), 22–35.
- Sari, R., dkk. (2021). Peningkatan kompetensi operator sekolah melalui pelatihan berbasis teknologi. *Jurnal Teknologi Pendidikan*, 12(3), 89–102.
- Schleicher, A. (2018). *World class: How to build a 21st-century school system*. OECD Publishing.
- Selvi, N. (2023). Pengaruh kinerja operator sekolah dalam pengelolaan data pokok pendidikan (DAPODIK) terhadap kualitas kerja sekolah.
- Silver, C., & Woolf, N. H. (2023). *Qualitative analysis using MAXQDA: The five-level QDA method*. Routledge.
- Sinaga, E. J., Purba, S., & Rangkuti, I. (2023). Faktor-faktor yang mempengaruhi efektivitas SIM di SD Swasta Santa Lusia Sei Rotan.
- Sriyanti, E., Roza, S., & Maharani, A. (2024). Pengaruh dukungan manajerial kepala sekolah terhadap kinerja operator sekolah.
- Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed., pp. 443–466). SAGE.
- Sutrisno, B. (2023). Evaluasi kinerja tenaga administrasi sekolah dalam sistem informasi manajemen pendidikan.
- Tondeur, J., Forkosh-Baruch, A., Prestridge, S., Albion, P., & Edirisinghe, S. (2016). Responding to challenges in teacher professional development for ICT integration in education.
- UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. UNESCO Publishing.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE.
- Yulianto, D., & Hidayat, T. (2022). Pengaruh kompetensi operator terhadap keakuratan data DAPODIK. *Jurnal Pendidikan dan Teknologi Informasi*, 9(2), 144–155.