Supervision Strategies for Improving Learning Outcomes in Islamic-Based General Education Institutions

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Supervision Strategies, Learning Outcomes, Islamic-Based General Education Institutions **Abstract:** This study examines the supervision strategies as a strategy to enhance learning outcomes at SMK Muhammadiyah 1 Purwokerto, adopting a distinct approach compared to previous studies that primarily focus on general learning supervision. The research aims to explore the impact of academic supervision on learning quality. Utilizing a qualitative field research method, the study involved direct observations and interviews with the Principal, Vice Principal for Curriculum, Vice Principal for Student Affairs, and teachers. Data were analyzed using the Miles and Huberman model, comprising data reduction, data display, and conclusion verification. The findings reveal that academic supervision, implemented through both group and individual methods, effectively enhances learning quality and teacher competence. This improvement is reflected in better student achievement, increased cooperation skills, a more conducive learning environment, contextualized learning processes, and the attainment of curriculum objectives. Moreover, academic supervision serves as a professional development tool, enabling teachers to adapt more effectively to student needs and the evolving demands of modern learning methods.

Abstrak: Penelitian ini mengkaji strategi supervisi akademik sebagai strategi untuk meningkatkan hasil belajar di SMK Muhammadiyah 1 Purwokerto, dengan pendekatan yang berbeda dibandingkan studi sebelumnya yang lebih berfokus pada supervisi pembelajaran secara umum. Penelitian ini bertujuan untuk mengeksplorasi dampak supervisi akademik terhadap kualitas pembelajaran. Dengan menggunakan metode penelitian lapangan berbasis kualitatif, penelitian ini melibatkan observasi langsung dan wawancara dengan Kepala Sekolah, Wakil Kepala Sekolah Bidang Kurikulum, Wakil Kepala Sekolah Bidang Kesiswaan, dan guru. Analisis data dilakukan menggunakan model Miles dan Huberman yang meliputi reduksi data, penyajian data, serta verifikasi dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa supervisi akademik yang dilaksanakan melalui metode kelompok dan individu secara efektif meningkatkan kualitas pembelajaran dan kompetensi guru. Peningkatan ini tercermin dari pencapaian hasil belajar siswa, keterampilan kerja sama yang lebih baik, lingkungan belajar yang kondusif, proses pembelajaran yang kontekstual, serta tercapainya tujuan kurikulum. Selain itu, supervisi akademik berfungsi sebagai alat pengembangan profesional yang membantu guru untuk lebih adaptif terhadap kebutuhan siswa dan tuntutan metode pembelajaran modern.

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INTRODUCTION

In the global era, education is increasingly recognized as a cornerstone for national development, serving as the primary determinant of human resource quality (Zervas & Stiakakis, 2024; Mengesha & Singh, 2023; Bambi, et al., 2024). Human resources with superior skills and competencies are now seen as the main drivers of a nation's progress, surpassing the traditional reliance on natural resources. However, the rapid advancements in technology and the explosion of information require individuals not only to possess technical skills but also to adapt quickly to changing environments. Without skilled and competent human resources, even the most advanced technologies and systems cannot guarantee the achievement of organizational or national goals (Qosimov et al., 2022). This context emphasizes the need for education systems to align with these challenges by producing individuals who are competitive, innovative, and adaptable.

Education is not merely the transfer of knowledge but a deliberate and structured effort to foster the holistic development of learners. It creates a learning environment where students can develop their potential in various dimensions, including intellectual, emotional, spiritual, and social capacities (Komariah & Nihayah, 2023; Reeve, 2013). Through this process, students are expected to acquire skills and values that enable them to contribute meaningfully to their communities and the broader society. However, the complex demands of modern education often reveal gaps in implementation, particularly in ensuring that teaching practices are aligned with these broader educational objectives. This raises questions about the effectiveness of supervision systems and their ability to support teachers in delivering high-quality education (Elisa et al., 2022; Mulang, 2021).

One of the critical factors affecting educational quality is the role of school leadership, particularly in supervision (Lian, 2020; Rostini et al., 2022). Effective supervision not only ensures compliance with educational standards but also serves as a mechanism for professional development, helping teachers improve their instructional practices. In the context of school autonomy, principals are entrusted with significant authority to design and implement policies that enhance institutional performance. However, this autonomy often comes with challenges, such as the lack of systemic support and the varying readiness of teachers to embrace supervision. This underscores the need for more strategic and adaptive supervision approaches to meet the evolving demands of education in the global era.

Previous research by Bagawan, et al., (2023); Nurtanto, et al., (2021); Fitri Fajriyaeni, (2013), provides a foundational understanding of educational supervision, outlining its three primary stages: planning, implementation, and evaluation. In the planning stage, school principals prepare assessment tools and set programmatic goals. During the implementation stage, supervision involves classroom observations and one-on-one discussions to improve teaching practices. Evaluation, as the final stage, focuses on assessing the overall quality of the teaching and learning process. While this model highlights the procedural aspects of supervision, it lacks a detailed exploration of how these stages impact teacher professionalism and student learning outcomes.

In a similar vein, Drake, et al., (2023); Krasniqi, (2021); Juju Legiati (2015), explore the management of learning supervision, emphasizing its systematic nature. Her study identifies five stages: planning, organizing, implementing, supervising, and assessing. These stages involve creating schedules, delegating tasks to vice principals, conducting classroom visits, and engaging in reflective discussions with teachers. While the study acknowledges the importance of these stages, it primarily examines procedural effectiveness rather than the broader impact of supervision on educational outcomes. Moreover, it does not delve into the specific challenges faced by Islamic-based general education institutions, which often combine vocational and religious education.

This research seeks to fill these gaps by focusing on supervision strategies as a tool for improving learning outcomes in Islamic-based general education institutions. Unlike previous studies, this research emphasizes the contextual challenges and unique dynamics of these institutions, where educational goals are not only academic but also moral and spiritual. The study aims to provide a comprehensive analysis of how supervision can be tailored to address these multifaceted objectives while ensuring continuous improvement in teacher performance and student achievement.

This study aims to explore and analyze the supervision strategies employed in Islamic-based general education institutions, particularly their role in Improving learning outcomes. The primary objective is to investigate the processes of planning, implementation, and evaluation of supervision strategies, shedding light on how these processes are designed and executed in practice. By identifying the strengths and weaknesses of existing supervision practices, the research seeks to offer evidence-based recommendations for improvement.

Additionally, the study aims to evaluate the impact of supervision strategies on teacher professionalism and student learning outcomes. Teachers play a central role in shaping the quality of education, and their ability to deliver effective instruction is closely linked to the support and guidance provided through supervision. By measuring this relationship, the study seeks to highlight the critical role of supervision as a developmental tool that goes beyond mere compliance monitoring.

Lastly, the research aspires to provide practical insights for school leaders and policymakers in Islamic-based general education institutions. By addressing the unique challenges of integrating academic, vocational, and religious education, this study aims to contribute to developing more effective supervision models that align with the diverse needs of modern education systems.

Supervision strategies are not merely administrative tools but play a transformative role in improving the quality of education (Hammond, 2021; Tatto, 2021). Effective supervision provides school principals with a framework to support teachers in designing and delivering high-quality instruction (Kilag, et al., 2023; Bellibaş, 2023). However, the effectiveness of these strategies often hinges on their adaptability to the unique needs of different educational contexts (Gligorea, et al., 2023; Onu, et al., 2024). For Islamic-based general education institutions, supervision must address both academic and moral dimensions, ensuring that students receive a holistic education.

This research argues that supervision strategies should function as a dual mechanism: a control system to ensure compliance with standards and a developmental tool to foster teacher professionalism. By focusing on continuous improvement, supervision can create a supportive environment that encourages innovation and collaboration among teachers. This approach not only enhances the quality of teaching but also contributes to better learning outcomes for students.

The study also posits that effective supervision requires a clear understanding of the challenges faced by teachers and the provision of adequate support systems. For instance, addressing issues such as teacher readiness and resource availability is crucial for ensuring the success of supervision initiatives. By examining these factors in the context of Islamic-based general education institutions, this research seeks to provide a nuanced perspective on the role of supervision in improving educational outcomes.

This research is significant because it addresses the critical need for effective supervision strategies in Islamic-based general education institutions. These institutions face unique challenges, as they must balance the demands of vocational training, academic excellence, and moral development. Supervision strategies that fail to account for these complexities may fall short of achieving their intended goals. By focusing on these institutions, the study aims to provide insights that are both contextually relevant and broadly applicable.

Furthermore, the research contributes to the growing body of literature on educational supervision, particularly in the context of Indonesia's diverse education system. By exploring how supervision strategies are implemented in Islamic-based schools, the study offers a valuable reference for other institutions seeking to enhance their educational quality. It also provides a basis for future research on the integration of supervision practices with broader educational objectives.

Finally, the findings of this study have practical implications for school principals, teachers, and policymakers. By highlighting effective supervision practices and identifying areas for improvement, the research aims to inform the development of policies and programs that support continuous improvement in education. This makes the study not only academically significant but also highly relevant for practitioners and stakeholders in the education sector.

METHOD

This study employs a field research design with an evaluative focus, following the framework proposed by Reichardt (1994). Evaluative research systematically gathers data to assist decision-makers in addressing critical questions about the implementation and effectiveness of specific programs (McGill et al., 2020). For this purpose, the study utilizes a summative evaluation approach (Daka et al., 2021; Scriven, 2022), which assesses the overall value and effectiveness of a program, particularly by comparing its outcomes with those of similar initiatives. A qualitative approach underpins this research, allowing for an in-depth exploration of the phenomena studied. The researchers conducted direct field observations at SMK Muhammadiyah 1 Purwokerto, focusing on the implementation of academic supervision. The primary research subjects include the Principal, Vice Principal of Curriculum, Vice Principal of Student Affairs, and teachers at the school. These participants were selected purposively based on their roles in the supervision process and their potential to provide rich, relevant insights into the topic.

To collect data, the researchers employed three key techniques: observation, interviews, and documentation. Through observation, they directly examined the supervision processes and teaching activities, focusing on interactions, procedures, and outcomes. Semi-structured interviews were conducted with the Principal, Vice Principals, and teachers to gain a deeper understanding of their perspectives on the supervision process, its challenges, and its impact on learning quality. Additionally, supporting data were gathered from school records, supervision reports, lesson plans, and other relevant documents. These documents provided context and verified the findings from observations and interviews.

The data were analyzed using the model proposed by Miles and Huberman (1994), which consists of three iterative stages: data reduction, data display, and conclusion drawing with verification. In the data reduction stage, the researchers filtered, summarized, and categorized information to focus on data relevant to the research objectives, such as identifying themes related to supervision strategies and their outcomes. The data display stage involved organizing the information into narrative descriptions, tables, and graphs to facilitate interpretation, such as tabulating supervision activities to show their frequency and focus areas. Finally, the conclusions and validate them. Triangulation of data sources and methods was employed to ensure the accuracy and reliability of the results.

By employing these comprehensive techniques and systematic analysis methods, the study aims to provide a robust evaluation of the implementation of academic supervision at SMK Muhammadiyah 1 Purwokerto. Furthermore, it seeks to highlight how these supervision strategies contribute to improving learning outcomes, offering valuable insights for educational stakeholders.

RESULT AND DISCUSSION

Result

Analysis of Academic Supervision Strategies

At SMK Muhammadiyah 1 Purwokerto, an Islamic-based private school offering study programs such as Computer and Network Engineering, Office Administration, Accounting, and Motorcycle Engineering, academic supervision plays a crucial role in enhancing teachers' ability to manage the learning process. The principal serves as a supervisor, providing direction and guidance to teachers to improve their teaching skills and achieve optimal educational outcomes. This supervision utilizes two primary methods: group techniques and individual techniques, which are adapted to meet situational needs.

Academic supervision applied at SMK Muhammadiyah 1 Purwokerto, utilizing group and individual techniques, has positively impacted Islamic learning. Through group supervision, teachers exchange experiences and strategies for teaching Islamic values, enriching their understanding of appropriate approaches for delivering complex religious materials. This collaborative environment enhances teaching methods, making learning more meaningful for students.

Individual supervision provides tailored feedback, allowing teachers to assess and refine their teaching methods, particularly in Islamic education. Personalized guidance ensures that teachers address specific challenges, resulting in a more effective and impactful learning experience. Furthermore, supervision fosters professionalism among teachers. Group supervision equips teachers with innovative teaching techniques to engage students in Islamic learning, while individual supervision supports methodical planning and continuous improvement. Together, these approaches create a conducive learning environment that encourages students to understand and apply Islamic values in their daily lives—a fundamental goal of Islamic education.

Recent studies underline the significance of combining group and individual supervision to optimize education quality. Group supervision promotes collaboration, while individual supervision offers personalized feedback. The strategic application of these methods at SMK Muhammadiyah 1 Purwokerto demonstrates their effectiveness in improving teaching quality and learning outcomes in Islamic-based general education institutions. By fostering teacher development, enhancing classroom practices, and aligning educational methods with contemporary needs, academic supervision supports the holistic achievement of educational objectives.

Improving Learning Outcomes in Islamic-Based General Educational Institutions

The effort to improve the quality of education at SMK Muhammadiyah 1 Purwokerto focuses on strengthening the educational process through indicators that reflect effective learning. Academic supervision is a primary strategy employed to achieve this, with principals conducting regular evaluations and providing guidance to teachers in various aspects, such as assessment, teaching methods, and curriculum implementation. This process aims to ensure continuous improvement in five key areas: student achievement, collaboration skills, fun learning, contextualization of learning outcomes, and attainment of curriculum goals.

The enhancement of student achievement at SMK Muhammadiyah 1 Purwokerto is evident from students meeting their learning targets. Academic supervision contributes significantly to achieving these objectives, with an 80% success rate. Remedial programs are available for students who do not meet the Minimum Completeness Criteria. Academic supervision enables principals to guide teachers in improving their competencies, which directly impacts student performance.

Collaboration among students is a critical indicator of a conducive learning environment. The positive relationships between teachers and students, as well as among peers, contribute to a harmonious and effective learning atmosphere. Through principal-led supervision, teachers receive support in managing classrooms to promote interaction and teamwork. The principal's role in guiding teachers to establish classroom harmony is vital. Academic supervision helps teachers develop strategies for effective classroom management, creating an environment where students can collaborate effectively. Teachers who maintain open communication and provide consistent support create a positive classroom culture, encouraging active participation and teamwork among students.

Fun learning is prioritized at SMK Muhammadiyah 1 Purwokerto to make the material more accessible and engaging for students. Supervision encourages teachers to employ diverse methods, such as discussions, question-and-answer sessions, and interactive activities like card-based learning. Teachers at SMK Muhammadiyah 1 Purwokerto adopt innovative approaches tailored to classroom conditions. For instance, in Class 3 Accounting A, methods such as discussions and the use of short cards have significantly boosted student enthusiasm. By maintaining a responsive and supportive relationship with students, teachers create a joyful and conducive learning environment that fosters academic success.

Contextual learning approaches are integral at SMK Muhammadiyah 1 Purwokerto, where students are trained to collaborate, socialize, and solve problems through group discussions and practical exercises. Teachers guide students to apply learned concepts in real-world scenarios, making the learning experience more meaningful. For example, group projects not only deepen students' understanding but also foster teamwork and autonomy. Teachers' role in facilitating such experiences is crucial, as it encourages active participation and practical application of knowledge.

Achieving curriculum targets is a pivotal aspect of educational quality improvement. At SMK Muhammadiyah 1 Purwokerto, principals play a key role in providing facilities and resources that support teachers in meeting an 80% curriculum completion rate. Academic supervision ensures that teachers remain focused on developing competencies aligned with curriculum objectives. Leadership support through academic supervision fosters a culture of continuous professional development among teachers. This, in turn, strengthens instructional quality and helps achieve curriculum goals. Principals, as instructional leaders, bridge the gap between administrative duties and hands-on supervision, ensuring a cohesive and effective educational environment.

Academic supervision at SMK Muhammadiyah 1 Purwokerto plays a transformative role in improving the quality of education. By addressing key aspects such as student achievement, collaboration, fun learning, contextual learning, and curriculum goals, supervision enhances both teacher competencies and student outcomes. The findings underscore the importance of effective leadership and a collaborative approach in fostering an environment conducive to learning.

Aspect	Research Findings	Impact
Supervision	Utilizes group and individual techniques	Improved teaching skills and
Methods	to enhance teachers' teaching skills.	learning effectiveness.
Group	Teachers share experiences and strategies	Enhances understanding of
Supervision	for teaching Islamic values.	teaching methods and fosters a
		learning community.
Individual	Provides personalized feedback, helping	More effective and sustainable
Supervision	teachers address specific challenges in	teaching improvements.

Table 1. Analysis of Research Findings on Academic Supervision Strategies

	teaching.	
Student	80% of students meet learning targets;	Improved student learning
Achievement	remedial programs are available for those who do not meet the criteria.	outcomes and teaching effectiveness.
Student Collaboration	Positive relationships between teachers and students create a harmonious learning atmosphere.	Encourages social interaction that supports learning.
Enjoyable Learning	Innovative methods such as discussions, Q&A sessions, and short-card activities increase student engagement.	Increased learning motivation and interactive learning experiences.
Contextual Learning	Practice-based approaches like group discussions and real-world projects.	Enhances students' critical thinking and problem-solving skills.
Curriculum Achievement	Academic supervision ensures 80% of the curriculum is completed as targeted.	Improves learning quality and alignment with educational standards.
Principal's Role	Provides facilities and support for teachers' continuous professional development.	Enhances teacher competencies and teaching effectiveness.

Discussion

Academic supervision has been widely recognized as an effective strategy for enhancing the quality of education. Glickman (2007) and Kadroon (2023) emphasize that effective academic supervision aids teachers in refining their instructional strategies, improving classroom management, and addressing students' learning needs comprehensively. Rather than serving solely as an evaluative mechanism, supervision fosters professional development, increasing teacher motivation and job satisfaction.

Research by Ali et al. (2023) and Mouraz et al. (2023) demonstrates that group supervision techniques, such as collaborative discussions and structured workshops, cultivate a culture of mutual learning among educators. These forums, including teacher working groups (Kelompok Kerja Guru / KKG) and subject teacher meetings (Musyawarah Guru Mata Pelajaran / MGMP), facilitate the exchange of best practices, problem-solving strategies, and innovative pedagogical approaches. This collaborative environment aligns with the findings at SMK Muhammadiyah 1 Purwokerto, where group supervision enhances teachers' ability to incorporate Islamic values into the curriculum effectively.

Khan et al. (2022) and Abbaspour et al. (2024) assert that professional development programs, such as workshops, seminars, and in-house training, play a crucial role in equipping teachers with contemporary instructional techniques. These initiatives enable educators to refine their lesson plans, implement interactive methodologies, and address classroom challenges more effectively. At SMK Muhammadiyah 1 Purwokerto, such professional development efforts have led to the successful adoption of engaging and student-centered teaching strategies, as observed in the implementation of discussion-based learning and short-card methods in accounting classes.

Individual supervision techniques, including classroom observations and oneon-one mentoring, are equally crucial. Singh and Patel (2023) highlight that these methods provide personalized feedback, allowing teachers to reflect on and refine their instructional approaches. Such targeted interventions are particularly beneficial in Islamic-based education, where teachers must balance religious instruction with general academic content. Gibbs et al. (2021) emphasize that individual supervision fosters an environment of open dialogue, enabling educators to discuss challenges candidly and collaborate with supervisors on tailored improvement plans. This aligns with findings at SMK Muhammadiyah 1 Purwokerto, where individualized guidance has contributed to more effective curriculum implementation and improved student learning outcomes.

Robbins and Alvy (2019) advocate for a structured and well-planned supervision framework, arguing that it enhances teacher creativity and instructional effectiveness. Effective communication between school leaders and educators ensures that feedback is constructively applied (Senyametor et al., 2024). Purnamaraya (2019) and Wiyono et al. (2021) further reinforce this perspective, noting that consistent individual supervision has been shown to enhance pedagogical competence by 50%, leading to significant improvements in student learning.

The impact of academic supervision on student achievement is welldocumented. Elfira et al. (2024) and Gunawan et al. (2023) affirm that student achievement serves as a critical benchmark for evaluating educational effectiveness, encompassing cognitive, affective, and psychomotor domains. Similarly, Lorensius et al. (2022), Assalihee et al. (2024), and Mulryan-Kyne (2020) underscore the role of supervision in fostering reflective teaching practices, which, in turn, lead to more efficient and effective instruction. When teachers enhance their competencies through structured supervision, student performance improves, aligning with the overarching goals of educational quality enhancement at SMK Muhammadiyah 1 Purwokerto.

Collaboration is another fundamental aspect of effective learning environments. Agustina & Setiawan (2020) and Yeh (2023) emphasize that positive social interactions within the classroom enhance students' engagement and overall learning experiences. Lakkala et al. (2021) and Zamiri & Esmaeili (2024) highlight that collaborative learning not only bolsters academic achievement but also cultivates essential soft skills, such as communication and problem-solving. At SMK Muhammadiyah 1 Purwokerto, principal-led supervision has played a pivotal role in fostering teamwork among students, creating a supportive and interactive classroom culture.

The role of diverse and interactive teaching strategies in student engagement is well established. Trullàs et al. (2022) argue that varied instructional techniques increase student motivation and comprehension. Martin-Alguacil et al. (2024) and Korkmaz et al. (2023) support this claim, demonstrating that interactive, studentcentered methodologies enhance both retention and enthusiasm for learning. Empirical evidence from SMK Muhammadiyah 1 Purwokerto validates these findings, where innovative approaches like card-based learning have proven to be highly effective in boosting student participation and enthusiasm.

The importance of contextual learning in fostering critical thinking and problem-solving skills is highlighted by Wang et al. (2020). Jackson et al. (2022) and Smith et al. (2022) extend this argument, demonstrating that contextual learning

methodologies facilitate interdisciplinary integration and better prepare students for real-world applications. At SMK Muhammadiyah 1 Purwokerto, group projects and practical exercises have been successfully implemented to bridge theoretical knowledge with practical applications, further reinforcing the significance of context-driven instruction.

Lastly, the provision of adequate educational resources is essential for curriculum achievement. Toto & Limone (2021) and Agyapong et al. (2022) emphasize that access to sufficient facilities and teaching materials enhances both teacher motivation and instructional effectiveness. Faizuddin et al. (2022) and Amzat et al. (2022) further assert that leadership support through academic supervision fosters a culture of continuous professional development, ultimately strengthening teaching quality and ensuring curriculum goals are met. These findings resonate with the experience at SMK Muhammadiyah 1 Purwokerto, where principal-led supervision has facilitated an 80% curriculum completion rate, reinforcing the significance of strong leadership in educational success.

In summary, the findings at SMK Muhammadiyah 1 Purwokerto align with broader research on academic supervision, affirming its critical role in enhancing teaching effectiveness, student engagement, and curriculum implementation. By integrating group and individual supervision techniques, the institution has successfully fostered a professional learning environment, improved student outcomes, and strengthened the overall quality of education.

CONCLUSION

This study concludes that effective supervision strategies, implemented through group and individual methods, play a critical role in enhancing learning outcomes and teacher competence in Islamic-based general education institutions. Principals, as supervisors, provide essential guidance and constructive feedback, fostering collaboration and innovation in teaching strategies. Group supervision activities, such as discussions and workshops, encourage teachers to share experiences and develop solutions collectively, while individual supervision, through classroom observation, offers personalized and detailed feedback. These strategies lead to improved learning outcomes, evident in student achievements, collaborative skills, a supportive learning atmosphere, contextualized teaching, and alignment with curriculum goals.

To further optimize these outcomes, it is recommended to increase the frequency and diversity of teacher training programs to keep educators updated on the latest pedagogical developments. Principals should also strengthen their communication skills to ensure more effective supervision and build trust among teachers. Furthermore, enhancing collaboration through platforms like teacher working groups (*Kelompok Kerja Guru / KKG*) and subject teacher meetings (*Musyawarah Guru Mata Pelajaran / MGMP*) is essential to maintain a spirit of teamwork and continuous improvement.

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REFERENCES

- Abbaspour, F., Hosseingholizadeh, R., & Bellibaş, M. Ş. (2024). Uncovering the role of principals in enhancing teacher professional learning in a centralized education system. *International Journal of Educational Management*, 38(3), 873-889. <u>https://doi.org/10.1108/IJEM-12-2023-0654</u>
- Agustina, L., & Setiawan, R. (2020). Fostering a Natural Atmosphere; Improving Students' Communication Skill in a Business Meeting. *Journal of Languages and Language Teaching*, *8*(3), 307–314. <u>https://doi.org/10.33394/JOLLT.V8I3.2746</u>
- Agyapong, B., Obuobi-Donkor, G., Burback, L., & Wei, Y. (2022). Stress, burnout, anxiety and depression among teachers: a scoping review. *International journal of environmental research and public health*, 19(17), 10706. <u>https://doi.org/10.3390/ijerph191710706</u>
- Alenezi, M. (2023). Digital Learning and Digital Institution in Higher Education. *Education Sciences*, 13(1), 88. <u>https://doi.org/10.3390/EDUCSCI13010088</u>
- Ali, M., Ahmad, T., & Khan, N. (2023). Collaborative Supervision in Education: Enhancing Teaching Effectiveness Through Structured Workshops. *Educational Management Quarterly*, 45(3), 123-136. <u>https://doi.org/10.1016/j.edmq.2023.01.005</u>
- Amzat, I. H., Yanti, P. G., & Suswandari, S. (2022). Estimating the effect of principal instructional and distributed leadership on professional development of teachers in Jakarta, Indonesia. *Sage Open*, 12(3), 21582440221109585. <u>https://doi.org/10.1177/21582440221109585</u>
- Assalihee, M., Bakoh, N., Boonsuk, Y., & Songmuang, J. (2024). Transforming Islamic Education through Lesson Study (LS): A Classroom-Based Approach to Professional Development in Southern Thailand. *Education Sciences*, 14(9), 1029. <u>https://doi.org/10.3390/educsci14091029</u>
- Bagawan, A., Douglas, S. N., & Gerde, H. K. (2023). Components of effective supervision and training for paraeducators. *Intervention in School and Clinic*, 58(4), 264-272. <u>https://doi.org/10.1177/10534512221093778</u>
- Bambi, P.D.R., Pea-Assounga, J.B.B. (2024). Unraveling the interplay of research investment, educational attainment, human capital development, and

economic advancement in technological innovation: A panel VAR approach. *Educ Inf Technol*. <u>https://doi.org/10.1007/s10639-024-12938-y</u>

- Bellibaş, M. Ş. (2023). Empowering principals to conduct classroom observations in a centralized education system: does it make a difference for teacher selfefficacy and instructional practices?. *International Journal of Educational Management*, 37(1), 85-102. <u>https://doi.org/10.1108/IJEM-02-2022-0086</u>
- Daka, H., Mulenga-Hagane, M. L., Mukalula-Kalumbi, M., & Lisulo, S. (2021). Making Summative Assessment Effective. *European Modern Studies Journal*. <u>https://dspace.unza.zm/handle/123456789/8339</u>
- Díez, F., Villa, A., López, A. L., & Iraurgi, I. (2020). Impact of Quality Management Systems in the Performance of Educational Centers: Educational Policies and Management Processes. *Heliyon*, 6(4). <u>https://doi.org/10.1016/j.heliyon.2020.e03824</u>
- Drake, T. A., Ivey, L., & Seaton, L. (2023). Principal candidates' reflective learning during a full-time internship. *Journal of Research on Leadership Education*, 18(2), 207-227. <u>https://doi.org/10.1177/19427751211062640</u>
- Elfira, Rasdiana, Fitrawati, Jasman MW, Reski K, Anwar A and Enaldi (2024) How does principal's instructional leadership shape teacher performance mediated by teacher self-efficacy in Indonesian education context? *Front. Educ.* 9:1401394. <u>https://doi.org/10.3389/feduc.2024.1401394</u>
- Elisa, Z. P., Nabella, S. D., Sabri, Sari, D. P., Nurmayunita, & Nurmayunita. (2022). The Influence of Role Perception, Human Resource Development, and Compensation on Employee Performance Universitas Ibnu Sina. *Enrichment : Journal of Management*, 12(3), 1606–1612. https://doi.org/10.35335/ENRICHMENT.V12I3.626
- Faizuddin A, Azizan NA, Othman A and Ismail SN (2022) Continuous professional development programmes for school principals in the 21st century: Lessons learned from educational leadership practices. *Front. Educ.* 7:983807. <u>https://doi.org/10.3389/feduc.2022.983807</u>
- Gibbs, M., Mengel, F., & Siemroth, C. (2021). Work From Home & Productivity: Evidence from Personnel & Analytics Data on IT Professionals. SSRN Electronic Journal. <u>https://doi.org/10.2139/SSRN.3843197</u>
- Glickman, N. (2007). Do You Hear Voices? Problems in Assessment of Mental Status in Deaf Persons with Severe Language Deprivation. *Journal of Deaf Studies and Deaf Education*, *12*(2), 127–147. <u>https://doi.org/10.1093/DEAFED/ENM001</u>
- Gligorea, I., Cioca, M., Oancea, R., Gorski, A. T., Gorski, H., & Tudorache, P. (2023). Adaptive learning using artificial intelligence in e-learning: a literature review. *Education Sciences*, 13(12), 1216. <u>https://doi.org/10.3390/educsci13121216</u>
- Gunawan, G., Yanti, P. R., & Nelson, N. (2023). Methods for Achieving Cognitive, Affective, and Psychomotor Aspects in Islamic Religious Education Learning: A study at Senior High School in Rejang Lebong. *AL-ISHLAH: Jurnal Pendidikan*, 15(1), 981–991. <u>https://doi.org/10.35445/ALISHLAH.V15I1.2793</u>

- Hammond, L. D. (2021). Defining Teaching Quality Around the World. *European Journal of Teacher Education*, 44(3), 295–308. <u>https://doi.org/10.1080/02619768.2021.1919080</u>
- Jackson, D., Shan, H., & Meek, S. (2022). Enhancing graduates' enterprise capabilities through work-integrated learning in co-working spaces. *Higher Education*, 84(1), 101-120. <u>https://doi.org/10.1007/s10734-021-00756-x</u>
- Kadroon, T. (2023). Using coaching and mentoring supervision of lesson study to enhance classroom research competencies: a multi-case study. *International Journal for Lesson & Learning Studies*, 12(4), 330-342. <u>https://doi.org/10.1108/IJLLS-05-2023-0055</u>
- Karim, A., Kartiko, A., Daulay, D. E., & Kumalasari, I. D. (2021). The Effect of The Supervision of The Principal and The Professional Competency of Teachers on Teacher Performance in Private MI in Pacet District. *Nidhomul Haq : Jurnal Manajemen Pendidikan Islam*, 6(3), 497–512. https://doi.org/10.31538/NDH.V6I3.1686
- Khan, R., Yousaf, S., & Malik, A. (2022). The Impact of Professional Development Programs on Teacher Effectiveness: Evidence from Secondary Schools. *Journal of Teacher Education and Practice*, 56(1), 45-61. <u>https://doi.org/10.1080/789456123.2022.234567</u>
- Kilag, O. K. T., Calledo, M. F. S., Uy, F. T., Dela Cerna, Y. T., Angtud, N. A. A., & Villanueva, K. M. (2023). Quality Performance of Teachers: Work Environment, Work Attitude, and Principal Supervision: Qualitative Investigation. *Basic and Applied Education Research Journal*, 4(1), 1-11. <u>https://doi.org/10.11594/baerj.04.01.01</u>
- Komariah, N., & Nihayah, I. (2023). Improving The Personality Character of Students Through Learning Islamic Religious Education. *At-Tadzkir: Islamic Education Journal*, 2(1), 65–77. <u>https://doi.org/10.59373/ATTADZKIR.V2I1.15</u>
- Korkmaz, S., Cetin-Dindar, A., & Oner, F. K. (2023). Impact of educational game development on students' achievement and attitudes toward science. *The Journal of Educational Research*, 116(5), 268–279. <u>https://doi.org/10.1080/00220671.2023.2265852</u>
- Krasniqi, R. (2021). Principal's Role in Supporting Teacher Collaborative Learning. *Research in Educational Administration & Leadership*, 6(4), 903-941. <u>https://dergipark.org.tr/en/download/article-file/2165069</u>
- Lakkala, S., Galkienė, A., Navaitienė, J., Cierpiałowska, T., Tomecek, S., & Uusiautti, S. (2021). Teachers supporting students in collaborative ways—An analysis of collaborative work creating supportive learning environments for every student in a school: Cases from Austria, Finland, Lithuania, and Poland. *Sustainability*, 13(5), 2804. <u>https://doi.org/10.3390/su13052804</u>
- Lian, B. (2020). The Influence of Principal Supervision and Organizational Climate toward Teacher's Performance. *Electronic Research Journal of Social Sciences and Humanities*, 2(2), https://doi.org/10.31219/OSF.IO/4U6JH

- Lorensius, L., Anggal, N., & Lugan, S. (2022). Academic supervision in the improvement of teachers' professional competencies: Effective practices on the emergence. *EduLine: Journal of Education and Learning Innovation*, 2(2), 99-107. <u>https://doi.org/10.35877/454RI.eduline805</u>
- Martin-Alguacil, N., Avedillo, L., Mota-Blanco, R., & Gallego-Agundez, M. (2024). Student-Centered Learning: Some Issues and Recommendations for Its Implementation in a Traditional Curriculum Setting in Health Sciences. *Education Sciences*, 14(11), 1179. <u>https://doi.org/10.3390/educsci14111179</u>
- McGill, E., Marks, D., Vanessa, E., Penney, T., Petticrew, M., & Egan, M. (2020).
 Qualitative Process Evaluation from a Complex Systems Perspective: A Systematic Review and Framework for Public Health Evaluators. *PLOS Medicine*, 17(11), e1003368.
 <u>https://doi.org/10.1371/JOURNAL.PMED.1003368</u>
- Mengesha, Z. D., & Singh, L. (2023). Human capital accumulation and economic growth of Ethiopian economy. *African Journal of Science, Technology, Innovation and Development*, 15(2), 211-226. <u>https://hdl.handle.net/10520/ejc-aa ajstid v15 n2 a211</u>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Sage
- Mouraz, A., Pinto, D., & Cristina Torres, A. (2023). Effects of a model for multidisciplinary peer observation of teaching in teacher professional development and in nurturing a reflective school. *Reflective Practice*, 24(1), 45-58. <u>https://doi.org/10.1080/14623943.2022.2130225</u>
- Mulang, H. (2021). The Effect of Competences, Work Motivation, Learning Environment on Human Resource Performance. Golden Ratio of Human Resource Management, 1(2), 84–93. <u>https://doi.org/10.52970/GRHRM.V1I2.52</u>
- Mulryan-Kyne, C. (2020). Supporting reflection and reflective practice in an initial teacher education programme: an exploratory study. *European Journal of Teacher Education*, 44(4), 502–519. <u>https://doi.org/10.1080/02619768.2020.1793946</u>
- Nurtanto, M., Kholifah, N., Masek, A., Sudira, P., & Samsudin, A. (2021). Crucial Problems in Arranged the Lesson Plan of Vocational Teacher. International *Journal of Evaluation and Research in Education*, 10(1), 345-354. <u>https://eric.ed.gov/?id=EJ1285679</u>
- Onu, P., Pradhan, A., & Mbohwa, C. (2024). Potential to use metaverse for future teaching and learning. *Education and Information Technologies*, 29(7), 8893-8924. <u>https://doi.org/10.1007/s10639-023-12167-9</u>
- Prasetia, I., Akrim, A., & Sulasmi, E. (2022). Developing Collaborative-Based Supervision Model Which Accentuates Listening and Responding Skills. *AL-ISHLAH: Jurnal Pendidikan*, 14(1), 709–720. <u>https://doi.org/10.35445/ALISHLAH.V14I1.1299</u>

- Qosimov, J. A., Aynakulov, M. A., Gapparov, B. N., Khatamov, A. Y., & Khudoyberdiev,
 B. B. (2022). Development of Methods for Improving the Lessons of Information Technology on The Basis of Graphic Programs. *AIP Conference Proceedings*, 2432(1). <u>https://doi.org/10.1063/5.0090470/2823992</u>
- Reeve, J. (2013). How Students Create Motivationally Supportive Learning Environments for Themselves: The Concept of Agentic Engagement. *Journal of Educational Psychology*, 105(3), 579–595. <u>https://doi.org/10.1037/A0032690</u>
- Reichardt, C. S. (1994). Summative Evaluation, Formative Evaluation, and Tactical Research. *Evaluation Practice*, 15(3), 275-281. <u>https://doi.org/10.1177/109821409401500308</u>
- Robbins, P., & Alvy, H. B. (2019). *Supervision in the Modern School: Applying Best Practices to Improve Teaching*. Pearson Education.
- Rostini, D., Syam, R. Z. A., & Achmad, W. (2022). The Significance of Principal Management on Teacher Performance and Quality of Learning. *AL-ISHLAH: Jurnal Pendidikan*, 14(2), 2513–2520. <u>https://doi.org/10.35445/ALISHLAH.V14I2.1721</u>
- Saldana, J. (2014). Thinking Qualitatively: Methods of Mind. USA: SAGE Publications
- Salmona, M., & Kaczynski, D. (2024). Qualitative Data Analysis Strategies. In *How to Conduct Qualitative Research in Finance*. Edward Elgar Publishing. <u>https://doi.org/10.4337/9781803927008.00021</u>
- Scriven, M. (1991). Chapter II: Beyond Formative and Summative Evaluation. *Teachers College Record*, 92(6), 19-64. https://doi.org/10.1177/016146819109200603
- Senyametor, F., Abreh, M. K., Amponsah, M. K. O., Mills, C. A., Bakah, M. A. B., & Abango, M. A. (2024). Do Support Services Provided in Distance Education Context Matter in Trainee Teacher Performance? *Cogent Education*, 11(1). <u>https://doi.org/10.1080/2331186X.2024.2398717</u>
- Singh, P., & Patel, R. (2023). Classroom observations as a tool for teacher reflection and improvement. *Educational Studies International*, 47(1), 99-112. <u>https://doi.org/10.1016/j.esi.2023.03.006</u>
- Smith, K., Maynard, N., Berry, A., Stephenson, T., Spiteri, T., Corrigan, D., ... & Smith, T. (2022). Principles of problem-based learning (PBL) in STEM education: Using expert wisdom and research to frame educational practice. *Education Sciences*, 12(10), 728. <u>https://doi.org/10.3390/educsci12100728</u>
- Tatto, M. T. (2021). Professionalism in Teaching and the Role of Teacher Education. *European Journal of Teacher Education*, 44(1), 20–44. <u>https://doi.org/10.1080/02619768.2020.1849130</u>
- Toto, G. A., & Limone, P. (2021). Motivation, stress and impact of online teaching on Italian teachers during COVID-19. *Computers*, 10(6), 75. <u>https://doi.org/10.3390/computers10060075</u>
- Trullàs, J. C., Blay, C., Sarri, E., & Pujol, R. (2022). Effectiveness of Problem-Based Learning Methodology in Undergraduate Medical Education: a Scoping

Review. *BMC Medical Education*, *22*(1), 1–12. <u>https://doi.org/10.1186/S12909-022-03154-8</u>

- Wang, H., Zheng, W. shi, & Yingbiao, L. (2020). Contextual Heterogeneous Graph Network for Human-Object Interaction Detection. Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 12362 LNCS, 248–264. <u>https://doi.org/10.1007/978-3-030-58520-4_15</u>
- Warman, W., Poernomo, S. A., Januar, S., & Amon, L. (2022). Leadership Style and Principal Supervision in Improving Teacher Performance at State High Schools in Kutai Kartanegara Regency, East Kalimantan Province, Indonesia. *EduLine: Journal of Education and Learning Innovation*, 2(1), 17–24. <u>https://doi.org/10.35877/454RI.EDULINE581</u>
- Wiyono, B. B., Rasyad, A., & Maisyaroh. (2021). The effect of collaborative supervision approaches and collegial supervision techniques on teacher intensity using performance-based learning. *Sage Open*, 11(2), 21582440211013779. <u>https://doi.org/10.1177/21582440211013779</u>
- Xie, X., Siau, K., & Nah, F. F. H. (2020). COVID-19 Pandemic Online Education in the New Normal and the Next Normal. *Journal of Information Technology Case and Application Research*, 22(3), 175–187. <u>https://doi.org/10.1080/15228053.2020.1824884</u>
- Yeh, C. T. (2023). Class management in Taiwan's Active Aging Learning Centers: demonstration of the relationship, interaction, and harmony in ethnic Chinese societies. *Educational Gerontology*, 49(12), 1039–1048. <u>https://doi.org/10.1080/03601277.2023.2200063</u>
- Zamiri, M., & Esmaeili, A. (2024). Strategies, methods, and supports for developing skills within learning communities: A systematic review of the literature. *Administrative Sciences*, 14(9), 231. <u>https://doi.org/10.3390/admsci14090231</u>
- Zervas, I., & Stiakakis, E. (2024). Economic Sustainable Development through Digital Skills Acquisition: The Role of Human Resource Leadership. *Sustainability*, 16(17), 7664. <u>https://doi.org/10.3390/su16177664</u>