

## THE ROLE OF THE PRINCIPAL AS A SUPERVISOR IN IMPROVING THE QUALITY OF ELEMENTARY SCHOOL EDUCATION

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### Abstract

*This study aims to examine the implementation of principal supervisory roles in improving educational quality, specifically analyzing the planning, implementation, and follow-up functions of supervision and their impact on educational quality enhancement. The research was conducted at SDN Kebondalem 01, Semarang Regency, which was selected due to its consistent educational quality improvement, evidenced by three consecutive years of BOSP Performance awards and significant score increases in national education reports. A qualitative descriptive case study approach was employed, involving in-depth interviews with three key informants (principal, teacher, and educational staff), non-participant observations, and document analysis. Data were analyzed using Miles and Huberman's model with triangulation techniques to ensure validity. The findings reveal that effective principal supervision operates through three interconnected functions creating sustainable educational quality improvement. The planning function demonstrates systematic data-driven approaches based on education report analysis and differentiated technique selection. The implementation function integrates traditional supervision methods with digital platforms (Performance Management and E-Kinerja), employing complete supervision cycles and collaborative approaches. The follow-up function emphasizes structured reflection and strategic planning ensuring supervision continuity. Measurable impacts show significant improvements: literacy scores increased from 90 to 100, numeracy from 66.67 to 90, character development from 60.54 to 72.67, and school achievements rose from 15 to 40 across various levels over three years. Theoretically, this study contributes to educational leadership literature by demonstrating how digital integration enhances traditional supervision practices in elementary school contexts. Practically, the findings provide a replicable supervision model for principals and policymakers to improve educational quality through systematic, collaborative, and technology-enhanced supervision approaches.*

**Keywords:** *Principal Supervision; Educational Quality; Elementary Education; Digital Platform Integration; Professional Development.*

## **A. Introduction**

The strategic role of school principals as supervisors in enhancing the quality of education has a solid legal foundation (Amelia et al., 2022; Nur 'Aliimu et al., 2025; Riani & Ain, 2022). Permendikbudristek Number 40 of 2021 outlines the workload of school principals, which includes managerial responsibilities, entrepreneurship development, and supervision of teachers and education staff. Principal supervision is a systematic coaching process aimed at increasing teachers' effectiveness in managing learning and creating a positive learning environment (Ani et al., 2025; Rozi et al., 2022; Ting & Chuang, 2024). (Julianda et al., 2024; Lestari & Bedi, 2025) emphasize academic supervision as an ongoing coaching effort designed to improve teacher competence and student learning outcomes optimally.

The implementation of the school principal's supervision in the field showed notable variation in achieving sustainable education quality. Kebondalem 01 State Elementary School, Semarang Regency, has consistently improved its quality based on education report data over the past three years. The average score increased significantly from 57,18 in 2022 to 73,79 in 2023, and reached 80,34 in 2024. Students' literacy skills rose from 90 to 100, numeracy skills from 66,67 to 90, and character formation from 60,54 to 72,67 during the same period. School achievements also increased markedly from 11 sub-district level achievements in 2021/2022 to 32 achievements in 2023/2024, including provincial-level awards. The school has won the Performance Education Unit Operational Assistance (BOSP Kinerja) award for three consecutive years as the top progress-maker. This achievement placed the school in the top 15% of schools in Semarang Regency and resulted in scores above the national average for literacy and numeracy skills.

Complex theoretical debates have arisen regarding the effectiveness of the supervision model in the context of teacher autonomy and the improvement of the quality of holistic education. The traditional top-down supervision dilemma has the potential to hinder teachers' creativity and innovation in learning, according to some experts (Arain et al., 2019; Mehraein et al., 2023). Controversy has also arisen regarding the measurement of the quality of education. The measurement has so far emphasized the cognitive aspect through national assessments and education reports (Crissien-Borrero et al., 2020; Tam, 2001). Criticism develops that excessive focus on scoring achievement can overlook other important aspects. These aspects include creativity, character, and life skills that are essential for learners' development. Fundamental questions arise about how to carry out supervision that not only improves test results but also develops the holistic potential of learners as a whole (Aisyah et al., 2024; Kadevie et al., 2025; Sidhu et al., 2015).

Previous studies have shown limitations in exploring the implementation of supervision integrated with digital platforms and current performance appraisal systems (Sari & Wijayanti, 2023). They have analyzed academic supervision in elementary schools but have not integrated the findings with the rapidly growing digital education report. Similarly, research (Handayani, 2023) suggests that the effectiveness of managerial supervision is still limited to conventional administrative aspects without reaching the integration of modern learning technology. These studies have also not explored in depth

how supervision contributes to the achievement of sustainable and consistent school achievement. The gap in the study arises in analyzing the causal relationship between the stages of supervision (planning, implementation, follow-up) and the improvement of specific indicators in the education report comprehensively.

An urgent need arises to understand how supervision can be optimized in the era of digitalization of education and increasingly stringent data-based accountability systems. The adaptation of more responsive and evidence-based supervision practices is a must along with the implementation of national assessments and education report cards as a comprehensive education system evaluation instrument. SDN Kebondalem 01 provides an important momentum to identify best practices that can be adapted and replicated by other schools through its success in achieving consistent achievements and BOSP Performance awards. The increasingly complex role transformation of integrating traditional supervisory tasks with digital performance management and the demands of continuous quality improvement requires an in-depth study.

The main purpose of this study is to examine the implementation of the role of school principal supervision in improving the quality of education. The specific objectives include: (1) describing the function of the principal's supervision planning in improving the quality of education at Kebondalem 01 State Elementary School, Semarang Regency, (2) analyzing the function of the implementation of principal supervision in improving the quality of education at Kebondalem 01 State Elementary School, Semarang Regency, (3) evaluating the follow-up function of principal supervision in improving the quality of education at Kebondalem 01 State Elementary School, Semarang Regency, (4) identifying key factors that contribute to the success of principal supervision in achieving improved quality of continuous education at Kebondalem 01 State Elementary School, Semarang Regency, and (5) offering recommendations for developing effective supervision practices that can be replicated in other elementary schools. SDN Kebondalem 01 was specifically selected due to its unique characteristics as a rural elementary school that successfully achieved exceptional performance improvements despite geographical and resource constraints. Unlike other schools in the region, this institution demonstrates consistent integration of digital platforms with traditional supervision methods, maintains strong community engagement in educational processes, and shows remarkable sustainability in quality improvement over three consecutive years, making it an ideal case for understanding effective supervision practices in challenging contexts.

This research has both theoretical and practical importance. Theoretically, this study advances educational leadership and supervision literature by developing a hybrid supervision model that bridges traditional mentoring approaches with digital accountability systems, specifically contributing to contingency supervision theory through empirical evidence of adaptive leadership in rural elementary contexts. The research extends current understanding of transformational leadership by demonstrating how collaborative supervision practices can systematically improve measurable educational outcomes while maintaining relational authenticity essential for effective mentoring relationships. Practically, the findings provide specific contributions to digital education

policy development by offering evidence-based guidelines for integrating Performance Management and E-Performance platforms with traditional supervision cycles. The study informs national education policy by demonstrating how systematic supervision can directly impact education report indicators, supporting the development of standardized supervision frameworks that align with Indonesia's national assessment systems and digital transformation initiatives in education. Additionally, the research provides concrete training modules and implementation strategies for principal professional development programs, particularly valuable for educational leadership preparation in rural and resource-constrained environments.

## **B. Method**

This study uses a qualitative descriptive approach that allows contextual and in-depth exploration of the supervisory role of principals without simplifying the complexity of educational leadership dynamics. The research was conducted as a case study focusing on the implementation of principal supervision to improve the quality of education in elementary schools in Semarang Regency, aiming to comprehensively understand the functions of planning, implementing, and following up on supervision practices.

The researcher identified the location of the research at Kebondalem 01 State Elementary School located in Kebondalem Village, Jambu District, Semarang Regency, Central Java Province. This elementary school in a rural area was chosen because of the consistency of improving the quality of education, as evidenced by the national education report card and the BOSP Performance award for three consecutive years. Additionally, comparative data shows that SDN Kebondalem 01 achieved significantly higher improvement rates compared to other schools in Semarang Regency, with an average score increase of 23,16 points over three years, while the regional average improvement was only 8,45 points during the same period. The research participants consisted of 3 people who included: (1) the principal as the main supervisor who has experience leading the school and carrying out supervision on an ongoing basis, (2) classroom teachers who directly receive supervision and implement the results of supervision in learning, and (3) education staff (school guards) who are also the object of supervision in the implementation of administrative and operational school tasks. Participants were selected purposively because their characteristics and experiences were relevant to answering in-depth research questions related to the implementation of supervision from various perspectives.

Participant inclusion criteria include direct involvement in supervision at SDN Kebondalem 01, a minimum of 2 years of experience at the school, and a willingness to provide open information. The exclusion criteria include teachers or education personnel who have been on duty for less than 1 year and do not have adequate supervision experience. Data saturation was achieved after conducting three rounds of interviews with each informant and two cycles of classroom observations, totaling 12 interview sessions and 8 observation periods. Saturation was determined when no new themes or significant information emerged from subsequent interviews, and all research questions were comprehensively answered across multiple data sources. Data collection was carried out through in-depth interviews, non-participatory observations, and documentation analysis,

which aimed to collect information related to the planning, implementation, and follow-up of supervision, as well as to observe the interaction of supervision and educational dynamics without the involvement of researchers, followed by the collection of secondary data from relevant official documents.

**Table 1. Interview Instrument Grid**

Research Focus	Sub-Aspects	Key Questions	Connection to Research Objectives
Principal Supervision Planning Function Programs	Preparation of Supervision	- How do you structure an annual supervision program? - What factors affect supervision planning? - How do you identify supervision needs?	Directly addresses Objective 1: Describing the function of principal's supervision planning
	Goal Setting & Scheduling	- What is the main purpose of the supervision carried out? - How do you structure a supervision schedule? - What techniques do you choose in supervision?	Links to systematic planning approaches and data-driven goal setting
	Instrument Preparation	- What instruments do you use for supervision? - How do you ensure the validity of the instrument? - What are the standards for supervised planning?	Explores planning effectiveness and standardization processes
Function of Implementation of Learning Principal Supervision	Observation	- How do you conduct observations in class? - What aspects were the focus during the observation? - How do you interact with teachers during supervision?	Directly addresses Objective 2: Analyzing the function of implementation of principal supervision
	Performance Monitoring	- How do you monitor the performance of teachers and education staff? - What approach do you use in the implementation of supervision? - How do you provide guidance during supervision?	Examines implementation strategies and monitoring systems
	Digital Platform Integration	- How do you leverage the GTK Space Platform for supervision? - What are the benefits of using digital platforms in supervision? - How do you integrate	Investigates modern supervision approaches and technology integration

Research Focus	Sub-Aspects	Key Questions	Connection to Research Objectives
Principal Supervision Follow-up Function	Giving Feedback	traditional and digital supervision? - How do you provide feedback after supervision? - What kind of feedback do you give? - How do you ensure the effectiveness of feedback?	Directly addresses Objective 3: Evaluating the follow-up function of principal supervision
	Professional Development	- What follow-up programs do you implement? - How do you design teacher development activities? - What continuous improvement strategies do you use?	Explores sustainability and professional growth outcomes
	Reflection & Evaluation	- How do you conduct supervised reflections? - What evaluation methods do you use? - How do you measure the success of supervision?	Links to continuous improvement and evaluation mechanisms
Additional Questions	Success Factors	- What factors contribute to the success of supervision? - What challenges do you face in supervision? - What recommendations do you give for effective supervision?	Addresses Objectives 4 & 5: Identifying success factors and developing recommendations

The data were analyzed using the Miles and Huberman model, which included three main stages: data condensation, data presentation, and drawing conclusions. Data condensation involves filtering relevant information and discarding data that does not align with the research focus on supervisory functions. Data presentation is done through thematic narratives and systematic descriptions to illustrate the connections between planning, implementation, and follow-up supervisory functions. Conclusions are drawn inductively based on patterns and themes emerging from field data, related to relevant supervisory theories to develop a thorough understanding of the studied phenomenon.

The validity of the data is ensured through triangulation techniques, including source triangulation, method triangulation, and time triangulation (Miles et al., 2020). Source triangulation compares information from principals, teachers, and education staff to strengthen the findings. Method triangulation involves comparing results from interviews, observations, and documentation to verify data consistency. Time triangulation is achieved by collecting data at different times to check for consistency in supervision implementation. Interpretive validity is maintained by repeatedly reviewing transcripts, verifying data relevance, and seeking clarification from informants when necessary.

This research was conducted in accordance with ethical principles, including participant consent, guarantees of confidentiality, and the freedom to withdraw at any time. The entire process received approval from the relevant educational authorities and organizing institutions. With this methodological approach, the research aims to make a meaningful empirical contribution to understanding how principals' supervision influences education quality and to develop strategies for strengthening supervision practices based on local contexts and digital integration.

## **C. Finding and Discussion**

### **1. Finding**

#### **Principal Supervision Planning in Improving the Quality of Education**

The planning function of principal supervision demonstrates a systematic and data-driven approach to improving educational quality at SDN Kebondalem 01. This function encompasses three main components: supervision goal setting, systematic scheduling, and appropriate technique selection. Triangulation results from in-depth interviews, non-participant observations, and document analysis confirm that these components work collaboratively to establish a solid foundation for effective supervision implementation.

The principal establishes supervision goals through comprehensive analysis of school education reports, particularly focusing on learning quality indicators that require improvement. During the school meeting observed on March 5, 2025, the principal initiated discussions by analyzing education report results to understand the school's comprehensive condition and establish priority improvements as supervision objectives. The principal demonstrates collaborative leadership by involving teachers and educational staff in the goal-setting process, ensuring that supervision objectives align with actual school needs and challenges faced by educators in the field. External factors significantly influence this planning process, including strong support from the Semarang Regency Education Office through regular technical assistance and supervision training programs. The rural socioeconomic context, characterized by strong community cohesion and parental support for education, creates a conducive environment for implementing systematic supervision. Additionally, the school's organizational culture, fostering open communication and collaborative problem-solving, enables effective stakeholder engagement in the planning process. Local government initiatives, such as the BOSP Performance program and digital platform integration mandates, provide both resources and accountability frameworks that shape supervision planning priorities.

*"As a principal, I set supervision goals based on learning quality indicators in the Education Report and previous evaluation results such as educator reflection data on ongoing learning processes, educator performance data collected through principal supervision, and feedback from students and parents" - Principal Informant (WKS, February 3, 2025). This approach is confirmed by a grade 3 teacher who stated: "Yes, the principal usually holds a beginning-of-year meeting to present Education Report analysis results. From there, we are invited to discuss determining supervision focus based on indicators that need improvement" - Teacher Informant (WGR, February 6, 2025). Educational staff also actively participate in this planning process, as mentioned by the school custodian: "Yes, the*

*principal usually conveys supervision plans in school meetings. We are invited to discuss schedules and what will be observed in our duties, such as cleanliness, order, and school facility readiness" - Educational Staff Informant (WTK, February 6, 2025).*

Supervision scheduling is conducted systematically, considering academic calendars, teacher workloads, and Performance Management platform timelines. The principal demonstrates flexibility in adapting to policy changes, particularly regarding the shift from semester-based to annual performance assessment periods in 2025. This systematic approach ensures that supervision activities do not disrupt the learning process while maintaining consistency in implementation. The scheduling process involves collaborative discussion with all stakeholders to determine optimal timing that accommodates everyone's responsibilities and ensures effective supervision delivery.

The selection of supervision techniques reflects the principal's understanding of different supervision needs for teachers and educational staff. For teachers, clinical supervision techniques are employed, focusing on mentoring, observation, and reflection to improve teaching quality. For academic staff, both direct and indirect supervision approaches are utilized, depending on the nature of their duties and work contexts.

*"In learning supervision, the most frequently used technique is Clinical Supervision, because this technique focuses on mentoring, observation, and reflection to improve teacher teaching quality" - Principal Informant (WKS, February 3, 2025). The principal further explained the differentiated approach: "In determining supervision schedules for teachers and educational staff, the timing is usually simultaneous. Planning is arranged through meetings with teachers and educational staff, considering school needs based on service improvement priorities and urgency, types of educational staff duties, supervision methods to be used whether direct or indirect, and coordinating implementation timing to avoid disrupting their main work" - Principal Informant (WKS, February 3, 2025).*

**Table 1. Summary of Principal Supervision Planning Function**

Planning Components	Key Findings	Educational Quality Impact
Goal Setting	- Based on Education Report data analysis - Collaborative decision-making with stakeholders - Focus on learning quality indicators (numeracy and classroom management) - Alignment with school improvement priorities	- Improves educational input quality through teacher competency enhancement - Strengthens educational staff service quality - Ensures supervision relevance to actual needs
Systematic Scheduling	- Considers academic calendar and teacher workloads - Adapts to Performance Management timeline changes - Annual implementation period (March-September) - Includes implementation months, supervision	- Ensures supervision implementation continuity - Minimizes learning process disruption - Maintains stakeholder engagement and participation

Planning Components	Key Findings	Educational Quality Impact
Technical Selection	types, targets, methods, and responsible persons - Clinical supervision for teachers (classroom visits and individual meetings) - Direct and indirect supervision for educational staff - Multiple methods: observation, interviews, document studies, reflective discussions	- Enables customized supervision approach - Accommodates different professional contexts - Enhances supervision effectiveness and relevance

This study confirms that supervision planning at SDN Kebondalem 01 is not merely an administrative requirement but rather a strategic foundation for educational quality improvement. The systematic approach, collaborative decision-making, and data-driven planning create optimal conditions for effective supervision implementation. The principal's ability to involve all stakeholders in the planning process demonstrates transformational leadership that empowers teachers and educational staff to participate in school improvement efforts actively. These findings contribute to supervision literature by demonstrating how comprehensive planning functions as a critical success factor in achieving sustainable educational quality improvement in elementary school contexts.

### **Implementation of Principal Supervision in Improving the Quality of Education**

The implementation function of principal supervision at SDN Kebondalem 01 demonstrates a systematic approach integrating traditional supervision methods with digital platforms. This function encompasses performance-based supervision for competency development and performance management supervision through digital platforms. The implementation process emphasizes collaborative learning, continuous feedback, and professional development for both teachers and educational staff.

The principal conducts performance-based supervision through a complete cycle approach involving pre-observation, observation, and post-observation phases. This process begins with preparatory discussions where teachers submit lesson plans for review. During observation, the principal systematically observes teaching methods, teacher-student interactions, and classroom management using predetermined instruments.

*"Performance-based teacher supervision is conducted systematically and data-driven, following stages: Pre-Observation where I discuss with teachers to understand learning objectives and methods used. Then observing the learning process directly with focus on teaching skills, classroom management, and teacher-student interaction" - Principal Informant (WKS, February 3, 2025). Teachers confirm this structured approach: "Principal supervision implementation is conducted in a planned manner. The principal confirms the observation schedule, then directly attends the classroom to observe the learning process. The observation is conducted openly and professionally, without disrupting teaching activities" - Teacher Informant (WGR, February 6, 2025).*

For educational staff, the principal employs direct supervision by observing daily task implementation, including security management, cleaning, and asset monitoring.

*"In supervising educational staff, I pay attention to discipline and work ethic, technical services effectiveness, service satisfaction, and collaboration abilities"* - Principal Informant (WKS, February 3, 2025). Educational staff respond positively: *"The principal often comes directly to see how we work. He observes whether the school environment is clean, facilities are ready, and we perform tasks on time"* - Educational Staff Informant (WTK, February 6, 2025).

The principal implements digital platform supervision through Performance Management platform for teachers and E-Performance for educational staff. This involves four stages: performance planning, implementation monitoring, performance evaluation, and follow-up. During planning, the principal guides staff in setting Individual Performance Targets aligned with education report recommendations.

*"My role is to provide guidance, technical assistance, and validation of performance expectations. I ensure each employee sets realistic performance that impacts educational service quality improvement"* - Principal Informant (WKS, February 3, 2025). The monitoring phase involves continuous oversight through digital dashboards with regular feedback and system documentation.

Post-observation activities emphasize professional development through constructive feedback and collaborative reflection.

*"After observation, I provide feedback and discuss performance improvement strategies. Teachers are given opportunities to reflect on supervision results and develop improvement plans"* - Principal Informant (WKS, February 3, 2025). Teachers value this approach: *"The principal observes various aspects from learning planning to implementation, uses structured instruments, then provides direct feedback or schedules reflective discussions"* - Teacher Informant (WGR, February 3, 2025).

#### a. Follow-up of Principal Supervision in Improving the Quality of Education

The follow-up function of principal supervision at SDN Kebondalem 01 demonstrates a structured approach to ensure supervision sustainability through reflective evaluation, collaborative discussion, and strategic planning. This process emphasizes data-driven reflection and stakeholder involvement to create sustainable professional development.

The principal conducts a reflective evaluation by systematically reviewing supervision outcomes and comparing initial objectives with actual achievements. This involves analysing observation notes, feedback documentation, and supporting materials to identify performance improvements following supervision implementation.

"I conduct reflection by reviewing observation notes and feedback from teachers and educational staff. I also compare initial supervision objectives with achieved results and discuss with the team to assess the effectiveness of approaches used" – Principal Informant (WKS, February 3, 2025).

Collaborative discussion involves inclusive stakeholder engagement where the principal facilitates open forums with teachers and educational staff to evaluate supervision effectiveness. These discussions identify strengths and areas requiring adjustment in supervision methodology.

"The principal conducts supervision result reflection in a very open and collaborative manner. After supervision, we are invited to discuss the implementation of classroom learning, including what has been effective and what needs improvement. In learning community forums, he discusses supervision results generally without cornering anyone, then invites us to find solutions and follow-up plans together" – Teacher Informant (WGR, February 6, 2025).

Strategic planning transforms reflection findings into actionable improvement strategies. The principal utilizes reflection results to design future supervision strategies and develop targeted training programs. "Reflection results become our foundation in designing subsequent supervision strategies. If reflection reveals that teachers respond more positively to collaborative approaches, we will emphasize that method more. We also improve supervision instruments and design training that matches needs emerging from reflection" – Principal Informant (WKS, February 3, 2025). The principal develops comprehensive Follow-up Plans containing professional development goals, improvement strategies, and performance enhancement efforts.

**Table 2. Summary of Principal Supervision Follow-up Function**

Follow-up Components	Key Findings	Educational Quality Impact
Reflective Evaluation	- Systematic review of outcomes - Comparison of objectives with achievements - Evidence-based assessment	- Ensures accountability - Provides improvement data - Validates effectiveness
Collaborative Discussion	- Open stakeholder forums - Inclusive evaluation approach - Joint problem-solving	- Builds ownership - Enhances acceptance - Strengthens relationships
Strategic Planning	- Comprehensive Follow-up Plans - Subsequent supervision design - Targeted training programs	- Ensures continuity - Supports sustainability - Maintains momentum

The follow-up function demonstrates how systematic reflection and collaborative planning create sustainable supervision cycles that continuously enhance educational quality. This approach ensures supervision serves as a foundation for ongoing professional development rather than merely an evaluation mechanism.

### **The Impact of Supervision on Improving the Quality of Education**

The impact of principal supervision at SDN Kebondalem 01 demonstrates significant and measurable improvements across academic achievement, school performance, and external recognition. The supervision implementation creates a positive cycle of continuous improvement reflected in concrete data and measurable outcomes

Academic achievement shows remarkable improvement in literacy and numeracy competencies, key indicators of learning quality. Systematic supervision focusing on classroom management and numeracy learning strategies has produced tangible results. *"Through supervision, we can identify specific areas needing improvement in learning. When supervision revealed weaknesses in numeracy approaches, we immediately designed targeted training for teachers"* – Principal Informant (WKS, February 3, 2025). Education report data shows literacy scores increasing from 90 to 100, numeracy improving from 66.67 to 90, and character development enhancing from 60.54 to 72.67 over three years.

School performance demonstrates exceptional improvement through increased achievements at various levels. *"After receiving supervision, I feel more confident in classroom management and using varied learning methods. This directly impacts student learning enthusiasm and achievement"* – Teacher Informant (WGR, February 6, 2025). Achievement data shows extraordinary improvement from 15 achievements in 2021/2022 to 40 achievements in 2023/2024, covering academic and non-academic achievements at district, regency, and provincial levels.

External recognition validates supervision effectiveness through prestigious awards. The school received BOSP Performance awards for three consecutive years as a school with best improvement, positioning among the top 15% best-performing schools in Semarang Regency. *"External recognition we receive is proof that our supervision approach is effective and can be a reference for other schools"* – Principal Informant (WKS, February 3, 2025). These results are unique compared to previous research in several ways: first, the sustained improvement over three consecutive years demonstrates long-term effectiveness rather than short-term gains typically reported in supervision studies; second, the successful integration of digital platforms (Performance Management and E-Performance) with traditional supervision methods has not been empirically documented in rural elementary school contexts; third, the measurable impact across multiple domains (academic achievement, school performance, and external recognition) provides comprehensive evidence of supervision effectiveness that extends beyond the limited cognitive or administrative outcomes reported in earlier studies; and fourth, the collaborative approach involving all stakeholders, including educational staff, represents a more inclusive supervision model than the teacher-focused approaches predominant in existing literature.

### **Table 3. Summary of Supervision Impact on Educational Quality**

Impact Areas	Key Improvements	Measurable Outcomes
Academic Achievement	- Literacy and numeracy enhancement - Character development strengthening	- Literacy: 90 → 100- Numeracy: 66.67 → 90- Character: 60.54 → 72.67
School Performance	- Achievement increase at multiple levels - Excellence culture development	- Total achievements: 15 → 40- Provincial level: 0 → 3
External Recognition	- BOSP Performance awards (3 consecutive years)- - Top 15% best-performing schools	- Best improvement school status- - Model school designation

The supervision impact demonstrates how systematic and collaborative supervision approaches create sustainable educational quality improvements, validating the program's effectiveness across academic, performance, and recognition indicators.

## 2. Discussion

This research addresses critical gaps in understanding how principals effectively implement supervisory roles to improve the quality of education in the context of primary schools, particularly in the era of digital integration and data-driven accountability systems. The research problem centered on the assessment of the implementation of the principal's supervision function at SDN Kebondalem 01 which showed an extraordinary increase in performance for three consecutive years. Through a qualitative case study approach involving in-depth interviews, non-participatory observations, and documentation analysis with three key informants (principals, teachers, and education staff), this study systematically examines the planning, implementation, and follow-up functions of school principal supervision and its impact on improving the quality of education.

Key findings reveal that adequate principal supervision operates through three interrelated functions that create a comprehensive professional development system. First, the planning function shows a systematic and data-driven approach based on the analysis of educational report cards, collaborative stakeholder engagement, and the selection of different techniques for teachers and education staff (Nurhikmah, 2024; Udin et al., 2024). Second, the implementation function integrates traditional supervision methods with digital platforms (Astuti et al., 2024; Bjørndal et al., 2023), using a complete supervision cycle for teachers and a direct observation approach for education personnel, supported by the Performance Management and E-Performance platform. Third, the follow-up function emphasizes structured reflection, collaborative evaluation, and strategic planning for continuous improvement, creating a continuous supervisory cycle that enhances professional development (Kamali & Javahery, 2024; Moore et al., 2024; Sengsalong & Yuliana, 2025).

These findings are in line with contemporary supervisory literature emphasizing collaborative and developmental approaches in educational leadership. The integration of digital platforms with traditional supervision methods supports the contingency supervision model (Glickman et al., 2018) that advocates an adaptive approach based on individual competency levels and context. The research's emphasis on data-driven planning

resonates with developmental supervision models (Sergiovanni, 2022), which prioritize empowerment and collaboration between supervisors and teachers. However, the study expands on the existing literature by showing how digital integration can enhance rather than replace traditional supervisory approaches, creating a hybrid model that maintains personal relationships while ensuring systematic documentation and accountability.

A systematic improvement in academic outcomes (literacy scores from 90 to 100, numeracy from 66.67 to 90, and character development from 60.54 to 72.67) validated the effectiveness of comprehensive supervision approaches in the context of primary education. This measurable improvement supports Mulyasa's (2022) statement that systematic supervision directly impacts student learning outcomes through improving teacher competence and instructional quality. The significant increase in school achievement from 15 to 40 at the district, district, and provincial levels shows how adequate supervision creates a culture of excellence that goes beyond academic performance to encompass broader educational development.

Similarities with previous research include the importance of collaborative approaches and systematic implementation processes found in studies (Prasetianingsih, 2022; O'Neill, 2022). However, key differences emerge in the integration of digital platforms and the systematic use of educational report card data for supervision planning, which has not been comprehensively examined by previous research. The research's focus on the context of rural primary schools also provides unique insights into how supervision can be implemented effectively despite geographical and resource constraints, contributing to the understanding of educational leadership in diverse settings.

Unexpectedly, research revealed that education staff (non-teaching personnel) responded to supervision just as positively as teaching staff, showing high levels of engagement and professional growth. These findings challenge the assumption that supervision is especially relevant for instructional staff and suggest that a comprehensive supervision approach can improve overall organizational effectiveness. The absence of resistance to the integration of digital platforms is also surprising, given the general concerns about technology adoption in educational settings, suggesting that proper guidance and collaborative implementation can facilitate a smooth technology transition.

However, the study acknowledges some limitations that must be considered in interpreting the findings. A single case study design limits generalizability to other elementary schools with different contexts, leadership styles, or resource availability. The relatively small sample size of the three informants, while appropriate for in-depth case study research, may not capture all perspectives and experiences within the school community. The research was conducted over a specific period (February-March 2025) and may not reflect supervisory dynamics across different academic periods or policy contexts.

The findings of this study have significant theoretical and practical implications for educational leadership and supervision practices. Theoretically, this research contributes to the supervision literature by demonstrating how digital integration can enhance rather than replace traditional supervisory approaches, creating a hybrid model that maintains personal relationships while ensuring systematic documentation and accountability. The study

extends contingency supervision theory by showing how adaptive approaches can be successfully implemented in rural elementary school contexts, particularly through the integration of collaborative planning, systematic implementation, and structured follow-up processes. Practically, the research provides concrete evidence for policymakers and educational leaders about the effectiveness of systematic, data-driven supervision approaches in improving measurable academic outcomes, offering a replicable model for supervision practices that can be adapted across diverse elementary school settings.

### **E. Conclusion**

This study confirms that principal supervision plays a crucial role in improving educational quality through systematic implementation of planning, implementation, and follow-up functions. The principal demonstrates adequate supervision by establishing data-driven goals based on education reports, implementing collaborative supervision cycles, and conducting structured reflection for continuous improvement. The integration of digital platforms with traditional supervision methods significantly contributes to enhancing teacher competency, educational staff service quality, and overall school performance.

**Theoretical Contributions:** This research enriches educational leadership literature by demonstrating how systematic supervision functions as a comprehensive professional development system rather than merely an evaluation mechanism. The study contributes to contingency supervision theory by showing successful adaptation of collaborative approaches in rural elementary contexts, and extends existing literature by illustrating how digital integration enhances traditional supervision without compromising relational aspects essential for effective mentoring.

**Practical Contributions:** The findings provide concrete guidance for principals and policymakers seeking to improve educational quality through systematic supervision. Key practical recommendations include: (1) implementing data-driven supervision planning based on education report analysis, (2) integrating digital platforms with traditional supervision methods to enhance documentation and accountability, (3) establishing collaborative goal-setting processes that involve all stakeholders, (4) developing structured reflection and follow-up mechanisms to ensure supervision continuity, and (5) creating comprehensive training programs for principals that emphasize both technical supervision skills and collaborative leadership approaches. These recommendations can inform policy development at district and national levels, particularly in designing supervision training programs aligned with modern digital accountability systems and national education assessment frameworks.

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