

## The Strategic Role of School Principals in Academic Supervision Based on Ruang GTK and E-Kinerja

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### ABSTRACT

This study aims to (1) examine the strategic role of school principals in improving the effectiveness of academic supervision in Vocational High Schools (SMK), (2) identify the utilization of teacher performance management platforms in the Ruang GTK and e-Kinerja in the academic supervision process, and (3) analyze supporting and inhibiting factors in the implementation of academic supervision based on digital platform integration. This study uses a qualitative approach, grounded in a literature review, drawing on a systematic review of relevant scientific sources, including reputable journals, academic books, and educational policy documents. The data analysis technique is carried out using a content analysis approach through the stages of data reduction, categorization, synthesis, and interpretation. The results of the study indicate that school principals play a strategic role as instructional leaders and agents of change, determining the success of digital-based academic supervision. The use of the Ruang GTK and e-Kinerja platforms enhances supervision by providing more systematic, transparent, and accountable teacher performance data. The integration of digital platforms enables continuous monitoring and evaluation and supports data-driven decision-making. However, the implementation of digital-based academic supervision still faces various challenges, such as limited digital competency, uneven technological infrastructure, and resistance to change. This study concludes that the success of digital platform-integrated academic supervision depends heavily on the principal's leadership capacity to manage change and to utilize technology optimally. Therefore, strengthening digital competency, sustainable policy support, and developing an integrated system are needed to improve the quality of academic supervision in vocational high schools. This research provides theoretical contributions to the development of digital-based educational management studies and practical implications for improving teacher performance and learning quality.

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### INTRODUCTION

The digital era is transforming school governance by making digital platforms central to teacher management and supervision ([Kusumaningrum et al., 2026](#); [Prima et al., 2026](#)). This paper asserts

that integrating digital technology especially in vocational high schools (SMK) in Indonesia and similar contexts is essential for accountability, teacher effectiveness, and career-readiness. Embracing digital supervision ensures education delivers practical, industry-relevant skills.

Academic supervision, led by school principals, systematically improves teaching quality through coaching, monitoring, and evaluation (Istianah, 2019; Mediatati & Jati, 2022; Safitri & Mujiati, 2019). However, traditional supervision faces challenges such as time constraints, subjectivity, and fragmented documentation. Recent advances in information technology exemplified by Ruang GTK and e-Kinerja address these challenges by creating systematic, transparent, and measurable teacher performance management. The integration of such platforms offers real-time data, comprehensive records, and enables evidence-based supervision to drive school improvement.

Research shows that principals significantly influence the effectiveness of academic supervision and teacher performance (Firmansyah, 2025; Raberi et al., 2020; Wahidah et al., 2024). As instructional leaders, they foster professionalism and continuous learning. Evidence confirms that digital technology strengthens supervision by boosting efficiency, accuracy, transparency, and feedback quality while enabling ongoing monitoring, supporting the need for digital integration (Sitorus, 2025; Fauzan et al., 2025; Mulyani et al., 2025)

However, most of these studies still discuss the role of the principal and academic supervision separately from the context of digital platform integration. Research specifically examining how principals utilize the integration of teacher performance management platforms such as Ruang GTK and e-Kinerja to improve the effectiveness of academic supervision is still relatively limited. Furthermore, studies identifying supporting and inhibiting factors in the implementation of digital platform-based academic supervision in vocational high schools (SMK) environments have also not been comprehensively explored. Yet, the successful implementation of digital innovation in education is strongly influenced by the readiness of human resources, technological infrastructure, and the school's organizational culture.

This research gap highlights an urgent need to examine how the strategic leadership of school principals, specifically through digital technology integration, can transform academic supervision. The aim is to provide a comprehensive conceptual understanding of how principals can leverage digital platforms to maximize supervisory effectiveness and sustainability. Additionally, it is critical to identify key factors driving or hindering the successful implementation of digital platform-based supervision so as to develop targeted strategies for overcoming obstacles.

Based on this background, this study aims to: (1) examine the strategic role of the principal in increasing the effectiveness of academic supervision in Vocational High Schools; (2) identify the use of teacher performance management platforms in the GTK Room and e-Kinerja in academic supervision; and (3) identify supporting and inhibiting factors in the implementation of academic supervision based on digital platform integration in Vocational High Schools. This study uses a literature study approach or library study by reviewing various theories, research results, and relevant concepts, so that it is expected to be able to provide a strong conceptual framework and a comprehensive understanding of the topic being studied.

Theoretically, this research contributes to educational management studies concerning principal leadership, academic supervision, and digital technology integration in teacher performance management. It also enriches the literature on digital transformation in education by stressing the importance of strategic leadership for effective digital platform use. Practically, this study serves as a reference for principals, supervisors, and stakeholders to design and implement academic supervision through digital technology. These findings can also inform policy-making to support data- and technology-based academic supervision in vocational schools.

Consequently, this research delivers both theoretical advancement and significant practical value for improving vocational education quality in Indonesia. If school principals strategically manage the integration of digital platforms into academic supervision, it can be a key catalyst for sustainable improvements in teacher performance and learning outcomes. This study, therefore, provides clear guidance for principals as agents of change in the ongoing digitalization of education.

## METHOD

This study uses a qualitative approach with a library research approach, aiming to comprehensively examine various concepts, theories, and empirical findings related to the strategic role of school principals in enhancing the effectiveness of academic supervision based on digital

platform integration. This approach was chosen because it allows researchers to conduct an in-depth exploration of conceptual constructs and emerging practices, particularly in the context of utilizing teacher performance management platforms such as Ruang GTK and e-Kinerja in Vocational High Schools (SMK).

Data sources include secondary data from relevant scientific literature. These sources are national and international journal articles, academic books, research reports, education policy documents, and official publications. All materials relate to academic supervision, principal leadership, teacher performance, and digital transformation in education. Documents on the use of Ruang GTK and e-Kinerja were also analyzed. This helps understand the related policy framework and practices.

Data was collected through systematic searches using academic databases like Google Scholar and national journal portals. The publications ranged from 2024 to 2026. Main keywords included 'the role of the principal', 'academic supervision', 'teacher performance', 'education digitalization', and 'teacher performance management platform.' Chosen literature met several inclusion criteria: relevant to the research focus, published recently for novelty, adequate methodological quality, and conceptual or empirical contributions. Literature not meeting the criteria was excluded to maintain study validity and reliability.

Data analysis used content analysis with a descriptive-analytical approach. The process had several stages. First was data reduction - identifying information relevant to the research focus. Next was categorization - grouping data into main themes like the principal's strategic role, effectiveness of academic supervision, use of digital platforms, and supporting or inhibiting factors. Synthesis followed, integrating literature findings to build a full conceptual framework. Finally, interpretation gave critical meaning to the synthesis to answer the objectives.

To ensure data validity, this study applies credibility and dependability principles through source triangulation. This involves comparing references from different sources to achieve consistent information. The researcher also critically evaluated each literature source, considering its methodology, relevance, and contribution. These steps are crucial to ensure the analysis results are academically sound and accountable.

## RESULTS AND DISCUSSION

The literature review found that academic supervision in Vocational High Schools (SMK) depends mainly on the principal's leadership capacity. This involves integrating managerial, instructional, and digital approaches at once. The analysis focused on three aspects: (1) the strategic role of the principal in supervision, (2) the use of a digital teacher performance platform, and (3) supporting and inhibiting factors in implementation.

### **The Strategic Role of School Principals in Improving the Effectiveness of Academic Supervision**

The study results show that the principal has a multidimensional role, acting as an instructional leader, education manager, and change agent. From an instructional leadership perspective, the principal first designs a systematic, sustainable, and needs-based academic supervision program for teachers (Febriani et al., 2026; Hidayat et al., 2026; Wiyono et al., 2025). The principal then sets performance standards, plans the supervision process, conducts learning observations, and finally provides constructive feedback to teachers.

In addition to instructional leadership, principals also play a role in creating a school culture that supports reflective practice and continuous professional development (Dosinaeng et al., 2025; Roseju et al., 2025). In this context, the effectiveness of academic supervision is determined not only by the frequency of supervision but also by the quality of interactions between the principal and teachers. Collaborative and dialogic supervision has been shown to be more effective in improving teacher motivation and competence than solely evaluative approaches.

Building on these roles, in the digital era, the strategic responsibilities of school principals are increasingly evolving toward technology-based transformational leadership. Principals are required to be able to initiate and manage the integration of digital platforms as part of the academic supervision system. This demonstrates that successful supervision depends not only on pedagogical competence but also on digital literacy and change management skills.

### **Utilization of Teacher Performance Management Platform in Academic Supervision**

The analysis shows that digital platforms like Ruang GTK and e-Kinerja can make academic supervision more effective (Ayadi & Yusrianti, 2025; Sufyanah & Nurhadi, 2025; Susanto et al., 2026). These platforms allow systematic, documented, and data-driven teacher performance management. Principals can monitor teacher performance in real time. They can access learning activity records and make more objective evaluations.

Digital platforms also improve transparency and accountability in supervision (Sumual et al., 2025; Sutrisno et al., 2024). Teachers can directly access assessment results, feedback, and development recommendations. This encourages more effective self-reflection. It fits the concept of modern supervision, which empowers teachers as professional learners.

The effectiveness of digital platforms depends on how well systems integrate. The study found that Ruang GTK and e-Kinerja were not fully optimized in some schools. Issues included poor data synchronization and difficult use. A more targeted implementation strategy is needed to ensure both platforms work together to support supervision.

### **Supporting and Inhibiting Factors in the Implementation of Academic Supervision Based on Digital Platform Integration**

A literature review identifies several factors supporting digital-based academic supervision. First, principals' and teachers' digital competence optimizes platform use (Rahayu et al., 2024; Triwahyuni et al., 2025). Second, stable internet and adequate devices are crucial (Meliadi & Badrun, 2025; Prihestiyani et al., 2025). Third, government policies and school commitment support successful integration (Fristianingsih et al., 2026).

Several inhibiting factors need attention. Low digital literacy among some teachers leads to resistance to technology. Increased administrative burden from digital platforms is also a challenge, especially if systems are not simplified. A lack of ongoing training and poor integration between platforms also hinders success.

### **Discussion**

The findings of this study confirm that the effectiveness of academic supervision in vocational high schools is inextricably linked to the principal's strategic role as a learning leader who adapts to technological developments. The integration of digital platforms into academic supervision is not simply a technical innovation, but part of a systemic transformation in educational management. In this regard, the principal plays a key role in ensuring that technology is optimally utilized to support improvements in the quality of learning.

Furthermore, the results of this study reinforce the view that effective academic supervision must be data-driven. The use of platforms such as Ruang GTK and e-Kinerja allows for more accurate and objective decision-making, thereby improving the quality of interventions provided to teachers. This also aligns with the modern educational paradigm that emphasizes the importance of evidence-based practice in educational management.

However, the successful implementation of digital-based supervision is determined not only by the availability of technology but also by the readiness of human resources and organizational culture. Therefore, a holistic approach is needed that includes strengthening the capacity of principals and teachers, providing adequate infrastructure, and developing policies that support the sustainable integration of digital systems.

Thus, the results of this study indicate that integrating a teacher performance management platform into academic supervision has significant potential to improve the effectiveness of teacher professional development in vocational high schools. However, optimizing this potential requires the active role of the principal as a strategic leader capable of managing change, utilizing technology effectively, and building an adaptive and innovative school culture.

### **CONCLUSION**

Digital platforms like Ruang GTK and e-Kinerja directly enhance the quality of academic supervision by increasing transparency, accountability, and sustainability in monitoring teacher performance. Their integration enables more objective decision-making and cultivates a culture of professional development among teachers. The success of integrated digital academic supervision is shaped by both supportive factors such as principal and teacher digital competence, infrastructure, policy support, and an adaptive school culture and inhibiting factors like low digital literacy, resistance

to technology, administrative burden, and poor system integration. Effective digital academic supervision depends not just on technology, but on the principal's ability to lead and integrate these systems. Strengthening digital leadership, advancing teacher technology skills, and developing integrated policies remain essential. This study reinforces the link between principal leadership, academic supervision, and digital transformation in education. It offers practical guidance for administrators seeking effective supervision strategies, and recommends future research to empirically test and deepen understanding across diverse school contexts.

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