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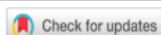
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The Headteacher's Digital Leadership in Managing Teacher Performance at SMPN 5 Salatiga

Suwandinik^{1*}, Aunurrahman², Agus Wartiningsih³, M. Asrori⁴, Marinu Waruwu⁵

^{1,2,3,4,5}Unviersitas Tanjungpura, Pontianak, Indonesia



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ABSTRACT

This study investigates the principal's digital leadership in managing teacher performance at SMPN 10 Salatiga, grounded in five ISTE digital leadership dimensions: digital equity and citizenship advocacy, visionary planning, empowering leadership, system design, and connected learning. Employing a qualitative descriptive approach, empirical data were gathered through in-depth interviews with the principal and 8 teachers, participant observation, and documentation analysis, followed by interactive data condensation, display, and verification. The findings demonstrate that the principal effectively enacted all five ISTE dimensions: guaranteeing equitable device access and modeling ethical citizenship; formulating a participatory digital vision and strategic plans; empowering educators through continuous upskilling and collaborative innovation; designing resilient IT infrastructure and data security protocols; and driving sustainable institutional change as an active, connected learner. This study contributes novel empirical insights by contextualizing the ISTE digital leadership framework within teacher performance management in resource-constrained secondary schools. Furthermore, it provides an actionable leadership model for school administrators to leverage digital systems for enhanced teacher efficacy and institutional adaptation.

INTRODUCTION

Leadership plays a critical role in achieving organizational goals within educational institutions. Leadership is defined as the capacity to influence individuals toward the realization of specific objectives (Nurtjahyani et al., 2025). Furthermore, Armstrong (2009, as cited in Lufityanto, 2025) characterizes leadership as a behavioral process that mobilizes collective action to attain shared organizational aims. Synthesizing these foundational perspectives, leadership fundamentally encompasses three core elements: intentional action, goal orientation, and the engagement of followers (Hipps et al., 2023).

Leaders must be adaptive to the times, especially digital technology. Currently, digital technology is developing rapidly and influencing all aspects of life. Digitalization has become a main pillar in the development of human resources in Indonesia, particularly in the education sector, and shows a positive trend in supporting the vision of Indonesia Gold 2045 (Larasaty et al., 2025). This is in line with Budiarto et al. (2021), who state that digital transformation, beside being a main pillar in the education sector, is also a key factor for economic growth in accordance with the vision of Indonesia Gold 2045. However, it also faces challenges in integrating it into the education sector (Sulistyaningrum et al., 2023). Digitalization refers to the use of technology and digital data, and their relationships, resulting in new activities or changes to existing ones (Larasaty et al., 2025).

Digital leadership is defined as the ability to direct the use of digital technology to achieve organizational goals thru transformational leadership, human resource empowerment, and the strengthening of integrated digital infrastructure (Westerman, 2015 in Syarqowi et al., 2025). For school principals, digital leadership refers to the ability

to integrate technology into every aspect of school operations, from teaching, data management, teacher coaching and evaluation, to communication with stakeholders. This aligns with Zeng et al. (2025), who view the digital capabilities of school principals as a key factor in integrating technology.

The International Society for Technology in Education (ISTE) has formulated digital competency standards for educational leaders known as the ISTE Standards for Education Leaders. According to ISTE (2024: 38), the five competencies that school principals must possess in the digital era are: (1) Equity and Citizenship Advocate, (2) Visionary Planner, (3) Empowering Leader, (4) Systems Designer, and (5) Connected Learner.

The integration of digital technology in the management of educational services has become a necessity; therefore, school principals, as the most responsible leaders in the school, are required to be actively involved in the integration process. One form of the principal's digital leadership today is the digitalization of teacher performance management. Performance management is one of the principal's tasks in the effort to improve the quality of education through digital transformation that favors students. Performance is an indicator to achieve results or goals (Dewi & Wicaksono, 2024). Performance management aims to improve quality, capacity, and roles in the transformation of education (Decree of the Minister of Primary and Secondary Education of the Republic of Indonesia Number 271/O/2025).

The government, through the Ministry of Basic and Secondary Education, has implemented the digitalization of Indonesian education thru the Rumah Pendidikan ecosystem, one of its services being Ruang 11K. Ruang GTK is a transformation of the Merdeka Mengajar Platform designed as a learning and inspiration space for teachers, school principals, school supervisors, and educational staff (Kemendikdasmen & N, 2024). At SMPN 5 Salatiga, all 8 (eight) teachers, including the principal, are active users of Ruang GTK for performance management. In addition, the GTK Room is used for professional development for teachers and the principal.

Based on the initial interview with the principal of SMPN 5 Salatiga, it can be concluded that the principal has good digital leadership. In addition to having individual proficiency with technology, the principal is also capable of fostering a digital culture within the school environment. This can be seen in the improvement in the educational report card of SMPN 5 Salatiga in 2025 (Kemendikbud, 2025), where several indicators improved compared to 2024, namely student literacy skills, student character, and school safety conditions. The government appreciated this improvement thru the provision of performance-based BOS in 2025. In addition, the teachers also achieved recognition in the PGRI anniversary competition, winning 1st place for Best Practice Teacher writing and 2nd place for using Canva to create learning media.

Addressing these empirical gaps, this study investigates the enactment of digital leadership by the principal at SMPN 5 Salatiga in managing teacher performance. Specifically, this research addresses three core research questions:

1. How does the principal operationalize the five ISTE digital leadership dimensions (Equity and Citizenship Advocate, Visionary Planner, Empowering Leader, Systems Designer, and Connected Learner) in teacher performance management through Ruang GTK?
2. How does the principal mitigate local technical and infrastructural limitations to sustain effective digital performance management?



3. How do teachers perceive the efficacy and supportive role of the principal's digital leadership practices in enhancing their performance and professional growth?

RESEARCH METHOD

This study adopted a qualitative descriptive approach to comprehensively describe the principal's digital leadership in managing teacher performance through narrative analysis. Conducted at SMPN 5 Salatiga from June to August 2026, the research site was purposively selected due to its operationalization of digital performance management via the Ruang GTK platform and institutional feasibility. Prior to data collection, institutional ethical approval was secured, and written informed consent was obtained from all participants (the principal, 8 teachers, and the IT operator) to guarantee voluntary participation, data confidentiality, and anonymity. Informants were selected via purposive sampling based on explicit, replicable criteria: the school principal (minimum of two years in leadership with direct oversight of digital policy and Ruang GTK deployment); permanent teachers (minimum of three years of active teaching experience, mandatory daily/monthly engagement with Ruang GTK, and representing cross-subject specializations across high, moderate, and low digital competency brackets); and the school IT operator (directly responsible for system administration and local technical support). Conversely, short-term contract staff, teachers not evaluated under the Ruang GTK ecosystem, and personnel without direct involvement in instructional technology workflows were systematically excluded.

The data sources for this research are the teachers and the principal of SMPN 5 Salatiga. The data to be obtained from the principal includes policies, digital leadership, and the development of a digital culture in the school. Meanwhile, the teachers who serve as data sources number 13 (eight) people with different subject backgrounds, namely: Indonesian Language, English Language, Mathematics, Science, Social Studies, Religious Education, Physical Education and Health, as well as Arts and Culture or Craft. The criteria for informants include: (1) permanent employment status (civil servants) or honorary teachers with a minimum of 2 years of service; (2) diverse subject backgrounds; (3) active use of digital devices in the learning process or performance administration; (4) a minimum of 2 years of service; and (5) willingness to be interviewed.

The research data consists of primary and secondary data. Primary data is obtained from interviews with school principals and teachers, while secondary data is sourced from policy documents, performance reports, and data on the use of the GTK Room. Data collection procedures include in-depth interviews, participatory observations, and documentary studies. Interviews are conducted semi-structured using interview guidelines developed based on the five dimensions of ISTE digital leadership. Observations are conducted to directly assess the school principal's digital leadership behavior and their interactions with teachers in the context of performance management. Documentary studies are used to collect relevant written data or recordings, such as teacher performance planning documents, school policies on the use of ICT, principal supervision reports, and other digital evidence.

Data analysis in this study uses thematic analysis combined with a qualitative descriptive approach. The steps of data analysis are carried out through three stages: data reduction, data presentation, and conclusion drawing (Miles et al., 2014). Data reduction involves selecting data relevant to the research focus. Data display was conducted by systematically organizing the condensed data into thematic tables, charts, and conceptual



matrices to facilitate pattern identification. Subsequently, conclusion drawing and verification were carried out through in-depth interpretive analysis, articulating the core meanings and relationships that emerged from the displayed data. To ensure data trustworthiness and validity, triangulation techniques were rigorously applied, specifically employing source triangulation (cross-verifying data across different informant groups) and method triangulation (corroborating findings across interviews, observations, and document analysis).

RESULTS

A qualitative analysis of school principals' digital leadership based on the five ISTE dimensions revealed a strong emphasis on empowering teaching capacity. Participants highlighted systemic support and equity as central elements of this strategy, with one interviewee stating: "The principal ensures that all teachers have equitable access to school devices and encourages collaborative digital planning." Such leadership behaviors directly support the institution's ongoing professional development and digital competencies.

Dimension of Equity and Citizenship Advocacy (Equity and Citizenship Advocate)

In this dimension, the principal acts as an advocate, ensuring fair access to technology, serves as a role model for ethical technology use, and fosters a culture of safe and responsible technology use. Based on interviews with teachers and the principal, it was found that: The principal ensures fair access to devices and digital connections by providing facilities such as laptops, Chromebooks, Interactive Flat Panels (IFP), and internet access that can be used alternately as needed. As expressed by one of the teachers: "The principal ensures that all teachers can use the school devices fairly so that each teacher can use the projector or IFP to support the learning process." This aligns with the principal's statement that resource management is carried out in a planned and inclusive manner, ensuring that all school members have equal opportunities to use technology.

In terms of digital citizenship exemplification, the principal sets an example by using official digital media and platforms for school communication and administration, and by reminding teachers to use technology wisely. As one teacher stated: "The principal always uses official digital media and platforms in school communication and administration and reminds teachers to use technology wisely." For example, the principal directs the teachers to use technology as a support for teaching and learning. The principal also regularly provides education on digital ethics, data security, and wise use of social media to both teachers and students.

Visionary Planner¹⁵ dimension

In this dimension, the principal plays a role in formulating a vision for the utilization of digital technology, involving stakeholders, developing strategic plans, and conducting regular evaluations and communications. Based on the interview results, it was found that: The principal formulated the vision for the utilization of digital technology thru the KSP (Kurikulum Satuan Pendidikan) preparation meeting, involving all teachers. As expressed by one of the teachers: "In my opinion, the principal formulated the vision for the use of digital technology in the previous meeting. In that meeting, we as teachers were also directly involved in discussing the formulation of the school's vision, so we could provide input on what needs are required at the school." This is reinforced by the



principal's statement that the school's vision for using digital technology is to deploy it wisely, creatively, and responsibly to support meaningful learning, strengthen values of faith and piety, and enhance students' digital literacy and science and technology competencies.

The principal has a clear strategic plan for digitalization at the school and communicates it through staff meetings, special socialization, and the school's digital coordination group. The progress of the digitalization strategic plan is evaluated periodically thru meetings, discussions with teachers, classroom observations, and joint reflections.

Dimension of an Empowering Leader

In this dimension, the principal plays a role in empowering teachers, building confidence, creating a culture of innovation and collaboration, and facilitating diverse learning. Based on the interview results, the principal provides various forms of empowerment to enhance teachers' digital competencies, including training in the use of digital technology, webinars, learning communities (Kombel), and support facilities such as Chromebooks and IFPs. As one teacher expressed: "The principal provides support in the form of training on digital utilization and often shares information about webinars on digital utilization. Additionally, the school frequently holds learning communities where teachers share best practices on using digital applications to make the learning process more active and enjoyable." The principal also builds teachers' confidence by providing motivation, appreciation for new ideas, and the freedom to choose applications that suit students' characteristics.

In creating a culture of innovation and collaboration, the principal optimizes learning communities as a collaborative platform, encourages teachers to participate in subject teacher forums (MGMP) and webinars, and provides space for technology-based learning experiments.

Systems Designer Dimension

In this dimension, the principal plays a role in setting technology policies, ensuring the availability of infrastructure, protecting data privacy and security, and building strategic partnerships. Based on the interview results, it was found that: The technology policies implemented at the school support the management of teacher performance, with a digital system for administration and performance reporting that makes work more efficient and time-saving. The school's digital facilities and infrastructure are quite sufficient, with Chromebooks, internet, and IFP available, although there are still some shortcomings that need improvement.

The principal ensures data security and protection by directing the use of protected official school accounts, reminding teachers to maintain data confidentiality, and regularly updating account security [15†L5-L15]. The principal also establishes partnerships with various parties, such as educational communities, MGMP, and webinar organizers, to support the school's digitalization

Connected Learner Dimension

The interview data reveals that the principal maintains an ongoing commitment to staying abreast of emerging technological developments and educational innovations. Rather than relying solely on formal, top-down institutional directives, the principal proactively participates in diverse independent learning opportunities, including



national webinars, specialized digital leadership workshops, virtual symposiums via Zoom, and asynchronous online training modules. Informants noted that this engagement is not merely passive attendance; the principal actively brings insights gained from these digital forums back into the school environment. During routine teacher briefings and evaluation meetings, the principal frequently demonstrates newly acquired digital tools, introduces innovative instructional methodologies, and shares relevant online educational materials. Furthermore, the principal's active involvement in professional educator forums and virtual administrative networks serves as a catalyst for reflective dialogue among the faculty. Teachers reported that the principal regularly encourages staff to assess their own digital literacy gaps, facilitates peer-to-peer digital learning circles, and provides immediate operational support when integrating new platforms into classroom practice. Through these sustained self-directed learning habits and continuous knowledge dissemination, the principal effectively translates individual digital upskilling into a driving force for school-wide pedagogical adaptation.

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DISCUSSION

The findings of this study indicate that the principal of SMPN 5 Salatiga has successfully enacted the five dimensions of ISTE digital leadership in managing teacher performance. This aligns with Okunlola & Naicker (2025:656), which established that teachers perceive effective digital leadership competencies through the lens of the five ISTE Administrator (ISTE-A) dimensions. However, while Okunlola & Naicker (2025) identified a persistent perceptual dissonance—wherein principals consistently rated their digital competency higher than teachers perceived it—the present study reveals a rare perceptual congruence between the principal and teaching staff. This cohesion contrasts sharply with findings in other recent educational settings (e.g., Al-Malki & Al-Bahrani, 2024; Smith & Ndlovu, 2024), where hierarchical digital divides and top-down mandates frequently foster skepticism, communication friction, and mismatched efficacy expectations between school leaders and educators. At SMPN 5 Salatiga, this gap was bridged through continuous participatory dialogue and shared technical problem-solving.

In the domain of digital equity and citizenship advocacy, the findings demonstrate that the principal actively operated as an advocate by securing equitable technology access, modeling ethical utilization, and instituting a secure digital culture, directly fulfilling the benchmarks established by ISTE (2024:7–8). These outcomes reinforce the conclusions of Prima Bendriyanti & Dewi (2025) regarding the strategic role of digital leadership in cultivating an adaptive, sustainable professional ethos. Yet, when evaluated against broader international and regional contexts (such as Nguyen et al., 2024; Zimmerman & Lee, 2025), a deeper comparative divergence emerges: in many resource-constrained or newly digitized secondary schools, digital equity initiatives often remain superficial—restricted to physical hardware distribution while neglecting pedagogical equity, data ethics, and psychological safety online. In contrast, the leadership at SMPN 5 Salatiga transcended mere technical provisioning by embedding ethical digital citizenship and proactive risk-mitigation frameworks directly into daily instructional supervision, thereby transforming external digital guidelines into an institutionalized, resilient school culture.

In the dimension of visionary planning, the findings indicate that the principal actively engaged all stakeholders in formulating a digital vision, developing a robust strategic plan, and conducting systematic evaluations and communications—aligning



directly with ISTE standards on shared vision and strategic implementation. To substantiate this vision amid severe local infrastructure limitations, the principal enacted rigorous, context-driven countermeasures. The leadership systematically addressed internet instability and device shortages by deploying local intranet-based learning management systems, establishing hybrid offline-first digital modules, and instituting an equitable Bring Your Own Device (BYOD) framework supported by school contingency reserves. Furthermore, the principal bridged fiscal and technical deficits by mobilizing external stakeholder partnerships, securing targeted CSR grants for hardware upgrades, and reallocating operational budgets toward network maintenance. By simultaneously building teacher capacity for asynchronous digital workflows, the principal ensured that infrastructural deficits did not hinder the execution of the school's digital transformation agenda. This aligns with the ISTE indicators that emphasize the importance of developing a shared vision, creating a strategic plan, evaluating and correcting, as well as communicating and sharing (ISTE, 2024:7-8). These findings are also in line with the research by Perveen et al. (2026), which shows that a digital vision, support for professional development, and data-driven decision-making enhance lesson preparation, classroom management, and teachers' professional responsibilities.

In the dimension of empowering leaders, the findings show that school principals have empowered teachers through training, building confidence, creating a culture of innovation and collaboration, and facilitating diverse learning. This aligns with ISTE indicators, including teacher empowerment, confidence-building, inspiring a culture of innovation and collaboration, supporting diverse learning, and developing real-time assessments (ISTE, 2024:7-8). These findings reinforce the research by Hamzah et al. (2025), which identifies that support for mastering digital leadership competencies is something that should not be overlooked.

In the system designer dimension, the findings indicate that the principal has established technology policies that support performance, ensured the availability of infrastructure, maintained data security, and forged strategic partnerships. This aligns with ISTE indicators, which include the establishment of technology policies, ensuring adequate resources, protecting privacy and data security, and building strategic partnerships (ISTE, 2024:5-8). These findings are in line with the research by Tulungen et al. (2022), which shows that the role of digital leadership is crucial in realizing digital transformation, and by utilizing information technology, work processes will be increasingly facilitated.

In the dimension of connected learners, the findings show that school principals have become lifelong learners by continuously keeping up with technological developments, engaging in professional networks, practicing reflective practices, and leading sustainable change. This aligns with ISTE indicators that include knowledge and innovation updates, participation in professional networks, reflective practices, and change leadership (ISTE, 2024:7-8). These findings are also in line with the research by Zeng et al. (2025), which views the digital competence of school principals as a key factor in their ability to integrate technology.

Overall, this study's findings indicate that the principal's digital leadership at SMPN 5 Salatiga has successfully integrated technology into the management of teacher performance. This is reflected in the improvement of the SMPN 5 Salatiga educational report card in 2025 and in the teachers' achievements in the PGRI anniversary competition. These findings reinforce Putri's (2024:vii) research, which shows that the



digital leadership of school principals has a positive and significant impact on teacher performance, contributing 57.4% when synergized with digital competence and teacher motivation. This research is also in line with Gunadi (2025) findings, which reveal that, despite limited infrastructure, school leaders creatively use digital tools to enhance equity, feedback, and supervision efficiency, thereby affecting teacher performance.

CONCLUSION

The principal serves dual functions as a system designer and a connected learner, serving as the operational and pedagogical foundation of educational transformation. The principal acts as a connected learner by continuously staying up to date with technological developments, actively engaging in professional networking, practicing reflective practices, and leading sustainable change. In practice, acting as a system designer requires school principals to proactively establish enforceable technology and data security policies, allocate resources for resilient digital infrastructure, and secure high-impact strategic partnerships. Simultaneously, fulfilling the role of a connected learner demands that principals consistently track emerging educational innovations, engage in cross-institutional leadership networks, and practice reflective evaluation to guide sustainable instructional change. For school leaders, the key takeaway is to move beyond administrative oversight: principals must actively architect an enabling institutional ecosystem while visibly modeling continuous digital learning, strategic experimentation, and data-informed decision-making for their staff. The principal acts as a connected learner by continuously staying up to date with technological developments, actively engaging in professional networking, practicing reflective practices, and leading sustainable change.

Fundamental Finding

This study demonstrates that the principal of SMPN 5 Salatiga successfully integrates digital performance management through Ruang GTK by operationalizing all five ISTE digital leadership dimensions, acting synchronously as a system designer and connected learner to bridge the digital divide.

Implication

This research implies that digital leadership by school principals is a key factor in the success of digitalizing teacher performance management. Principals need to continuously develop their digital competencies and create a positive digital culture within the school environment. Policymakers need to provide adequate support, both in the form of infrastructure, training, and mentoring, to strengthen the digital leadership of school principals.

Limitation and Future Research

However, this research is limited by its single-site qualitative scope focused solely on internal perceptions of one school. Future research should undertake multi-site comparative studies and incorporate broader stakeholder perspectives, including school committees and local education authorities, to evaluate institutional scalability across diverse school environments.



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***Suwandinik (Corresponding Author)**

Unviersitas Tanjungpura
Jalan Prof. Dr. H. Hadari Nawawi, Bansir Laut, Kecamatan Pontianak Tenggara, Kota Pontianak,
Kalimantan Barat 78124, Indonesia
Email: suwandinik@mail.com

Aunurrahman

Unviersitas Tanjungpura
Jalan Prof. Dr. H. Hadari Nawawi, Bansir Laut, Kecamatan Pontianak Tenggara, Kota Pontianak,
Kalimantan Barat 78124, Indonesia
Email: aunurrahman@mail.com

Agus Wartiningsih

Unviersitas Tanjungpura
Jalan Prof. Dr. H. Hadari Nawawi, Bansir Laut, Kecamatan Pontianak Tenggara, Kota Pontianak,
Kalimantan Barat 78124, Indonesia
Email: wartiningsih@mail.com

M. Asrori

Unviersitas Tanjungpura
Jalan Prof. Dr. H. Hadari Nawawi, Bansir Laut, Kecamatan Pontianak Tenggara, Kota Pontianak,
Kalimantan Barat 78124, Indonesia
Email: Asrori@mail.com

Marinu Waruwu

Unviersitas Tanjungpura
Jalan Prof. Dr. H. Hadari Nawawi, Bansir Laut, Kecamatan Pontianak Tenggara, Kota Pontianak,
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