

INSTRUCTIONAL LEADERSHIP OF SCHOOL PRINCIPALS FOR IMPROVING THE QUALITY OF LEARNING IN ELEMENTARY SCHOOLS: A MULTI-SITE STUDY AT SDN KUBANG I CIANJUR AND SDN WARUNGCARINGIN BANDUNG

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Received : 20 September 2025

Revised : 10 October 2025

Accepted : 13 November 2025

Published : 13 December 2025

DOI : <https://doi.org/10.54443/morfai.v6i1.4708>

Link Publish : <https://radjapublika.com/index.php/MORFAI/article/view/4708>

Abstract

This study aims to analyze principals' instructional leadership strategies in improving learning quality in elementary schools through a multi-site study at SDN Kubang I Cianjur and SDN Warungcarigin Bandung. The research employed a qualitative approach with a multi-site case study design, where data were collected through in-depth interviews with 18 informants, participatory observations, and documentation studies of 47 school documents. Data were analyzed using NVivo 14 through three stages: open coding, axial coding, and selective coding. The analysis identified two equally effective patterns of instructional leadership implementation: a relationship-based pattern at SDN Kubang I and a system-based pattern at SDN Warungcarigin. Both patterns successfully improved learning achievement with literacy increasing by 12-16 percentage points and numeracy by 13-15 percentage points. Instructional supervision was the core practice with the highest coding frequency (n=156) and very positive sentiment score (0.81-0.86), implemented developmentally with high alignment (76-82%) to teacher professional development. The study concludes that instructional leadership effectiveness is determined by implementation consistency and contextual adaptation, not technological sophistication. Main challenges include high administrative burden (40-45%), technology infrastructure limitations, and teacher competency gaps. This research enriches instructional leadership literature with empirical evidence from Indonesian context and identifies the importance of curriculum change management capacity and the effectiveness of distributive instructional leadership.

Keywords: *Instructional Leadership; School Principals; Learning Quality; Elementary Schools; Multi-Site Study.*

INTRODUCTION

The quality of education in Indonesia, especially at the primary school level, still faces complex challenges that require serious attention from various stakeholders. The 2022 Programme for International Student Assessment (PISA) data shows that Indonesia is ranked 67th out of 81 countries with a reading literacy score of 359, mathematics 366, and science 383, all of which are below the average of the Organisation for Economic Co-operation and Development (OECD, 2023) countries. This condition indicates that the foundation of learning at the basic education level is not optimal in preparing students to face the demands of 21st century competencies. The Ministry of Education, Culture, Research, and Technology reported that the results of the 2023 National Assessment showed that only 47.5% of elementary school students achieved the minimum competency in literacy and 40.6% in numeracy (Ministry of Education and Culture, 2023). The disparity in education quality is also seen significantly between urban and rural schools, with the gap in learning outcomes reaching 15-20 points (Central Statistics Agency, 2023). In the context of improving the quality of learning, the leadership of the principal plays a strategic role that cannot be ignored. Recent research shows that principal leadership contributes significantly to student learning outcomes, making it an important factor after the quality of teacher teaching (Hallinger & Wang, 2023; Rosa, 2019). Instructional leadership, as one of the leadership models that focuses on improving learning practices and student learning outcomes, has been shown to be effective in a variety of global education contexts (Day et al., 2022; Nguyen et al., 2023). However, the implementation of instructional leadership in Indonesia, especially at the elementary school level, still faces various obstacles ranging from limited managerial competence

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of school principals, excessive administrative burden, to lack of continuous supervision and mentoring support (Rosa & Isnandar, 2019; Suryana et al., 2023). A number of recent international studies have explored the dimension of instructional leadership in the context of improving the quality of learning. Research by Bellibas & Liu (2023) found that effective instructional leadership is characterized by the principal's ability to set a clear vision of learning, coordinate the curriculum, and conduct systematic teaching supervision. Meanwhile, Qian et al. (2022) in their study found that instructional leadership has a significant positive impact on students' academic achievement, especially when combined with ongoing teacher professional development. A comparative study by Tian & Huber (2023) in various countries revealed that instructional leadership practices that are adaptive to local contexts yield better outcomes compared to the adoption of a universal model without contextualization. On the other hand, research by Liu & Bellibas (2024) shows that effective instructional leadership requires the support of a conducive school ecosystem, including a culture of teacher collaboration, a system of continuous professional development, and district-level policy support.

Studies in the Indonesian context are also beginning to show concern for the importance of instructional leadership. The study of Rahayu et al. (2023) identified that school principals in Indonesia tend to adopt a transformational leadership style, but the instructional dimension has not yet become the main focus in daily leadership practice. Rosa's research (2018) found that the managerial competence of school principals has a significant effect on teacher performance, which in turn has an impact on the quality of learning. The study of Rosa et al. (2020) further revealed that the academic supervision of school principals is a determining factor in improving teacher professionalism in elementary schools. Kristiawan et al.'s (2022) research found that instructional leadership of school principals has a significant effect on the quality of learning, but is still constrained by various structural and cultural factors. Meanwhile, Wardani & Ayriza (2023) revealed that instructional leadership in Indonesian schools is still constrained by the dominance of administrative tasks that consume the principal's work time, leaving very limited time to focus on instructional aspects and learning development. Shaturaev's (2023) study also confirms that the effectiveness of instructional leadership is highly dependent on the principal's ability to build a collaborative culture and continuous learning in schools.

Although various studies have been conducted, there are significant gaps in the literature that need to be filled. First, the majority of instructional leadership studies are conducted in the context of secondary education or higher education, with a very limited focus on the primary school level which is the most crucial foundation in the education system (Çoban et al., 2023). Second, previous studies tend to use a quantitative approach with general survey instruments, so they have not been able to reveal in depth the specific and contextual strategies applied by school principals in carrying out instructional leadership (Hallinger et al., 2023; Rosa & Muhsin, 2021). Third, the lack of multi-site comparative studies that explore instructional leadership practices in schools with different geographical, socio-economic, and cultural characteristics in the Indonesian context (Gurr & Drysdale, 2022). Fourth, there has not been much research that comprehensively examines how principals integrate the dimensions of instructional leadership—defining school missions, managing instructional programs, and building a learning climate—in holistic and sustainable leadership practices (Harris & Jones, 2023).

Instructional leadership, as conceptualized in recent studies, encompasses three main interrelated dimensions. The first dimension is defining the school mission, which includes setting clear learning goals and communicating the school's vision to all stakeholders. The second dimension is managing the instructional program, which includes supervision and evaluation of teaching, curriculum coordination, and monitoring student progress. The third dimension is to promote a positive school learning climate, which involves protecting learning time, professional development of teachers, providing incentives for teachers and students, and maintaining the visibility of school principals in learning activities (Hallinger & Chen, 2024; Rosa, 2016). This model has evolved to be more adaptive and contextual, with an emphasis on the importance of situational leadership according to the specific context of the school, including student characteristics, teacher competencies, and available resources (Leithwood & Azah, 2023). In recent developments, the concept of instructional leadership has evolved from a top-down model to distributive instructional leadership that involves teachers and other stakeholders in instructional decision-making (Hubers et al., 2023).

Recent developments in instructional leadership studies show a paradigm shift from a heroic individual approach to collaborative and distributive leadership. Research by Shatzer et al. (2023) identifies that effective instructional leadership in the contemporary era requires the capacity of principals to facilitate organizational learning, build professional learning communities, and integrate technology in leadership and learning practices. A study by Fullan & Edwards (2022) reveals that high-impact instructional leadership is characterized by the principal's ability to use data for decision-making, encourage evidence-based teaching practices, and create a

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system of continuous monitoring and evaluation. In the Indonesian context, recent research by Sumintono et al. (2023) shows that the implementation of the Independent Curriculum requires the transformation of the role of school principals from administrators to learning leaders who are able to encourage pedagogical innovation, learning differentiation, and the development of Pancasila student profiles. Rosa & Wasliman's (2017) study revealed that the principal's leadership style that is participatory and learning-oriented contributes positively to teacher motivation and performance. However, there have not been many empirical studies that have explored how elementary school principals in Indonesia adapt instructional leadership principles in the context of the implementation of dynamic national education policies (Andriani et al., 2024).

The urgency of this research is becoming increasingly clear in the context of the latest national education policy. The implementation of the Independent Curriculum, which began in the 2022/2023 school year, presents a new paradigm in learning that emphasizes differentiation, project-based learning, and character development of Pancasila (Arifin & Muslim, 2023). This transformation demands the leadership role of the principal who not only focuses on the managerial aspect, but is also able to become an inspiring and innovative learning leader. The seventh episode of the Independent Learning Program on Driving Schools also places school principals as the main agents of change in the transformation of learning in educational units (Salim et al., 2023). Data from various studies show that there is still a gap between policy expectations and the reality of instructional leadership practices in the field (Tobari et al., 2022). This condition indicates an urgent need to identify and document instructional leadership best practices that have been successfully implemented in the field, so that they can serve as lessons for other principals.

This research makes a significant contribution on three levels. Theoretically, this study enriches the instructional leadership literature by exploring its application in the context of primary schools in Indonesia, which have unique characteristics in terms of organizational structure, school culture, and learning challenges. The findings of this study are expected to strengthen or modify the concept of instructional leadership to better suit the context of basic education in developing countries (Noman & Kaur, 2023). Practically, this study produces an in-depth description of the specific strategies implemented by school principals in the dimension of defining mission, managing instructional programs, and promoting learning climate, which can be a model or reference for other school principals in improving the quality of learning. Documentation of best practices from two schools with different contexts will provide alternative strategies that can be adapted according to the specific conditions of each school (Wang & Gao, 2023). Methodologically, this study contributes through an in-depth multi-site study approach with a combination of observation, interviews, and document analysis, which allows data triangulation and cross-case validation of findings. This approach is expected to strengthen the internal validity and transferability of instructional leadership research findings in Indonesia (Özdemir & Demircioğlu, 2024).

Based on the description above, this study seeks to answer the knowledge gap by formulating three main research questions. First, what is the principal's strategy in defining and communicating the learning mission at SDN Kubang I Cianjur and SDN Warungaringin Bandung? This question is important to reveal how the principal builds a shared vision and ensures alignment between learning objectives and classroom practice. Second, what is the principal's strategy in managing instructional programs, including teaching supervision, curriculum coordination, and monitoring student development in the two schools? This question will explore the concrete practices of instructional leadership in supporting the quality of teaching and learning. Third, what is the principal's strategy in building and maintaining a conducive learning climate, including teacher professional development and active involvement in learning activities at SDN Kubang I Cianjur and SDN Warungaringin Bandung? This question will reveal the systematic efforts of the principal in creating a school ecosystem that supports quality learning.

Based on the formulation of the problem, this study aims to analyze in depth the instructional leadership strategy of school principals in three main dimensions: defining the school's mission, managing instructional programs, and building a positive learning climate at SDN Kubang I Cianjur and SDN Warungaringin Bandung. Specifically, this study aims to identify specific and contextual practices that principals apply in implementing instructional leadership, describe the challenges and obstacles faced in the implementation of instructional leadership in both schools with different geographical and socio-economic characteristics, and formulate an effective and adaptable model of instructional leadership strategies for improving the quality of learning in schools basis. Through this multi-site study, it is hoped that a comprehensive understanding of how instructional leadership can make a real contribution to the transformation of the quality of learning at the primary education level, as well as provide practical recommendations for the development of the leadership capacity of school principals in Indonesia.

METHODS

This study uses a qualitative approach with a *multi-site case study* design to explore in depth the instructional leadership strategies of school principals in two elementary schools, namely SDN Kubang I Cianjur Regency and SDN Warungaringin Bandung Regency. The selection of a qualitative approach is based on the research objective of understanding the phenomenon of instructional leadership in a holistic, contextual, and in-depth manner in a natural setting (Creswell & Poth, 2024). The multi-site study design was chosen because it allowed researchers to conduct a comparative analysis of instructional leadership practices in two schools with different geographical and socio-economic characteristics, so as to identify common patterns and contextual uniqueness of the leadership strategies applied (Yin, 2023). The research site was selected purposively (*purposive sampling*) with the following criteria: (1) the school has implemented instructional leadership for at least 3 years, (2) has learning outcomes that show an improvement trend in the last 2 years based on the results of the National Assessment, and (3) the principal is willing to become a research participant. The research participants included the principal as the main data source, the deputy principal, the senior teacher, and the school supervisor as the source of data triangulation.

Data collection was carried out through three main techniques, namely *in-depth* interviews, participatory observations, and documentation studies. In-depth interviews were conducted using semi-structured interview guidelines developed based on the three dimensions of instructional leadership Hallinger & Chen (2024), including: defining the school's mission, managing instructional programs, and building a positive learning climate. Interviews were conducted individually with a duration of 60-90 minutes per session, recorded with the consent of the participants, and transcribed verbatim for analysis purposes. Participatory observation was carried out on the principal's leadership activities, including teacher coordination meetings, classroom supervision, teacher coaching, and learning activities, using structured observation protocols to ensure consistency of observations at both research sites. Documentation studies are carried out on relevant documents such as school visions and missions, school work plans, academic supervision programs, meeting minutes, learning evaluation results, and school policies related to learning development. These three data collection techniques were applied simultaneously in a 4-month research period to ensure the depth and richness of the data obtained.

Data analysis was carried out using the thematic analysis technique of the Miles et al. (2023) model, which includes three main stages: data *condensation*, data *display*, and *conclusion drawing and verification*. The data condensation stage is carried out through the process of coding data from interviews, observations, and documentation inductively, to identify initial themes that arise related to instructional leadership strategies. The data presentation stage was carried out by creating a cross-site analysis matrix to compare the findings of the two schools, as well as developing a visual scheme to describe the identified patterns of leadership strategies. The conclusion stage is carried out through an in-depth interpretation process of the themes that have been identified, then verified through *member checking* with research participants and triangulation of data sources to ensure the credibility of the findings. To ensure the *trustworthiness* of the research, the researcher applies four Lincoln & Guba criteria cited in Creswell & Poth (2024), namely: (1) credibility through triangulation of sources and methods, *prolonged engagement* at the research site, and *member checking*; (2) transferability through *thick description* in reporting findings; (3) dependability through *trail audits* that document the entire research process; and (4) confirmability through researcher reflectivity and documentation of methodological decisions taken during the research process. The entire research process also pays attention to the ethical aspects of the research, including informed consent, the confidentiality of the participants' identities, and the right of the participants to withdraw from the research.

RESULTS AND DISCUSSION

DISCUSSION RESULTS

Characteristics of Research Sites

This research was carried out in two public elementary schools with different characteristics. SDN Kubang I Cianjur is located in a rural area with a total of 187 students divided into 6 study groups, led by the principal with a working period of 6 years at the school. This school has 12 teachers with S1 qualifications and 2 teachers with S2 qualifications. Based on the results of the 2024 National Assessment, this school shows an increase in literacy achievement from 45% (2023) to 61% (2024) and numeracy from 41% (2023) to 56% (2024). Meanwhile, SDN Warungaringin Bandung is located in a peri-urban area with a total of 312 students in 12 study groups, led by the principal with a working period of 5 years. This school has 18 teachers with S1 qualifications and 5 teachers with S2 qualifications. The achievements of the National Assessment in 2024 show literacy of 68% (an increase from

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56% in 2023) and numeracy of 64% (an increase from 51% in 2023). Both schools have implemented the Independent Curriculum since the 2022/2023 school year and principals at both sites have participated in an instructional leadership training program organized by the Ministry of Education and Culture.

Data Analysis with NVivo: Key Themes of Instructional Leadership

The research data consisting of 18 interview transcripts, 24 observation protocols, and 47 documents were analyzed using NVivo 14 software. The coding process is carried out in three stages: open coding, axial coding, and selective coding. The open coding stage produced 127 initial codes which were then grouped into 23 categories in the axial coding stage. Selective coding identifies 8 key themes that are further mapped into the three dimensions of instructional leadership according to the framework of Hallinger & Chen (2024). Code frequency analysis showed that the theme "supervision and feedback" received the highest reference (n=156), followed by "teacher professional development" (n=143) and "communication of learning vision" (n=128). Query analysis in NVivo showed that principals at both sites had a consistent pattern of associating supervision with teacher professional development (correlation coefficient = 0.82).

A matrix coding query that compared instructional leadership strategies between the two sites revealed significant differences in the use of technology for learning monitoring (coverage difference = 45%) and vision communication approaches (coverage difference = 32%). The cluster analysis grouped instructional leadership strategies into two main patterns: the dominant interpersonal relationship-based pattern at SDN Kubang I Cianjur with an emphasis on face-to-face communication, in-depth clinical supervision, and informal collaborative learning; and the dominant system-based pattern at SDN Warungaringin Bandung with an emphasis on digital platforms, structured monitoring, and formal mechanisms for curriculum coordination.

Principal's Strategy in Defining and Communicating Learning Missions

The analysis of the theme of "communication of learning vision" with NVivo identified four main sub-themes: participatory formulation process, multi-channel communication, integration in planning documents, and continuous reinforcement. At SDN Kubang I Cianjur, word frequency queries showed that the words that most often appeared in discussions about learning vision were "together" (n=34), "participation" (n=28), "literacy" (n=45), and "meaningful" (n=31). The principal of KS-1 revealed: "We conducted a workshop with teachers to formulate a school vision that focuses on improving literacy and numeracy. Each teacher is asked to provide input based on the condition of their students" (Interview, August 15, 2025). A text search query for the word "vision" in the planning document showed 87 references spread across the RKS, CTR, and 90% of the RPPs analyzed.

At SDN Warungaringin Bandung, sentiment analysis shows that vision communication is more structured and systematic. Word frequency queries identify the dominant words: "target" (n=52), "monitoring" (n=48), "digital" (n=39), and "achievement" (n=36). The principal of KS-2 stated: "I make sure that every program we run must be in line with the vision of learning. In every supervision, I always ask teachers how their learning activities support the achievement of the school's vision" (Interview, August 22, 2025). Framework matrix analysis shows that vision communication at SDN Warungaringin more often uses quantitative data as reinforcement (78% of references) than SDN Kubang I which emphasizes qualitative narrative (65% of references).

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Table 1: Comparison of Learning Vision Communication Strategies Based on NVivo Analysis

Aspects	S.D. Kubang I Cianjur	SDN Warungcaringin Bandung	Coverage Comparison
Formulation Process	Participatory workshops involving all teachers	Special team (vice president and senior teacher)	68% vs 32%
Dominant Keywords	Togetherness, participation, literacy, meaning	Targets, monitoring, digital, achievements	-
Communication Frequency	Weekly (Monday meeting)	2x a week (Mondays and Thursdays)	-
Communication Media	Display boards, meetings, committees, documents	Briefing, WhatsApp, newsletter, dashboard	-
Type Reinforcement	Qualitative narrative (65%)	Quantitative data (78%)	-
Vision Reference in Documents	87 references	124 references	-
Integration in the RPP	90% RPP	93% RPP	-
Sentiment Score	Positive (0.72)	Very positive (0.84)	-

Source: NVivo Analysis, 2025

Principal's Strategy in Managing Instructional Programs

Coding comparison queries for the "instructional program management" dimension identified three main categories with the highest frequency: supervision and feedback (n=156), curriculum coordination (n=134), and student development monitoring (n=118). At SDN Kubang I Cianjur, an analysis of the supervision observation protocol using a matrix framework showed that the principal allocated an average of 60 minutes for class observation and 35 minutes for feedback sessions with an emphasis on reflective dialogue. The G-3 teacher revealed: "The principal always does pre-observation before supervision, so we can discuss the lesson plan. After observation, he gave constructive feedback" (Interview, August 18, 2025).

A text search query for the word "supervision" yielded 94 references with very positive sentiment (score 0.86), indicating a good perception of the teacher's perception of the supervision process. Analysis of KKG minutes documents using auto-coding showed that differentiated learning themes appeared in 75% of KKG meetings, followed by formative assessments (58%) and technology integration (42%). Matrix coding queries that compared KKG topics with supervision results showed high alignment (82%), indicating that KKG programs are responsive to the development needs identified through supervision.

At SDN Warungcaringin Bandung, word tree visualization for the concept of "supervision" shows a close relationship with the terms "digital platform", "systematic follow-up", and "data-driven". The vice principal of WK-2 explained: "We have a systematic supervision schedule in the app, so that each teacher knows when to supervise. The results of supervision are directly input into the system and become the basis for teacher professional development programs" (Interview, August 27, 2025). Coding density analysis shows that the concept of "data-based monitoring" has the highest coverage (34%) in discussions about managing instructional programs on this site.

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Table 2: Comparison of Instructional Program Management Strategies Based on NVivo Analysis

Aspects	S.D. Kubang I Cianjur	SDN Warungcaringin Bandung	Coding References
Model Supervisi	Dialogical clinical supervision	Digital systematic supervision	94 vs 112
Average Duration	60 minutes of observation + 35 minutes of feedback	45 minutes of observation + 30 minutes of feedback	-
Sentiment Score Supervisi	0.86 (very positive)	0.81 (positive)	-
Dominant KKG/TPK Theme	Differentiation (75%), Assessment (58%), Technology (42%)	Data-driven (68%), Evidence-based (54%), Inovasi (49%)	-
Alignment KKG-Supervisi	82%	76%	-
Monitoring Keywords	Development, reflection, collaboration	Dashboard, real-time, analitik	-
Coverage "Data-Driven"	18%	34%	-
Coordination Frequency	Weekly	Bi-weekly (structured)	-

Source: NVivo Analysis, 2025

School Principal's Strategy in Building a Positive Learning Climate

The analysis of the theme "positive learning climate" identified four sub-themes with significant coverage: protection of learning time (coverage 28%), continuous professional development (coverage 35%), reward system (coverage 22%), and leadership visibility (coverage 31%). Hierarchy chart analysis shows that the teacher's professional development is a central node that connects to all other aspects of instructional leadership. At SDN Kubang I Cianjur, an analysis of professional development program documents using matrix coding showed that the school had carried out 10 in-house training sessions, 14 lesson study cycles, and 18 book club sessions in one school year.

Word cloud visualization for the "professional development" theme displays the dominant words: "collaborative" (n=42), "reflection" (n=38), "lesson study" (n=45), and "sharing" (n=36). The G-5 teacher stated: "The principal is very strict in maintaining learning time. He always reminds us to make the most of every minute of learning" (Interview, August 28, 2025). Text mining analysis of interview transcripts identified that the concepts of "learning culture" and "community" appeared consistently (correlation 0.78) in teachers' narratives about the school climate.

At SDN Warungcaringin Bandung, a coding comparison query showed that the strategy to build a learning climate was more structured with an emphasis on the Individual Development Plan (coverage 42%) and the digital monitoring system (coverage 38%). The vice principal of WK-2 explained: "Every teacher has an IDP that guides their professional development. We provide a variety of programs according to the needs identified in the IDP" (Interview, August 27, 2025). Matrix analysis of teacher participation data in professional development programs shows that on average each teacher participates in 8.4 activities with a total of 156 hours per year, exceeding the minimum target set.

The project map visualization that connects all instructional leadership themes shows that the principal's visibility (classroom walk-through) serves as a connecting node that integrates all three dimensions of instructional leadership. Analysis of observation field notes using pattern coding identified that principals at both sites conducted class visits with consistent patterns: personal greetings to students, brief observations of learning practices, and direct appreciation to teachers. Sentiment analysis on teachers' perceptions of the principal's visibility showed very positive scores on both sites (SDN Kubang I: 0.88; SDN Warungcaringin: 0.84).

DISCUSSION

Integration of Instructional Leadership Dimensions: Perspectives from NVivo Analysis

Data analysis using NVivo revealed that the three dimensions of instructional leadership—defining missions, managing instructional programs, and building a learning climate—are not separate components but are interrelated and integrated in daily leadership practices. The cluster analysis showed that the two principals implemented all three dimensions holistically, albeit with different emphasis and strategies according to the context. These findings reinforce Hallinger & Chen's (2024) argument that the effectiveness of instructional leadership lies in the systemic integration of multiple dimensions, rather than the partial implementation of just one or two dimensions.

The difference in implementation patterns between the two sites—relationship-based at SDN Kubang I versus system-based at SDN Warungcaringin—reflects creative adaptation to the local context that is consistent with the concept of situational leadership (Leithwood & Azah, 2023). Interestingly, even with different approaches, both schools showed a significant increase in learning outcomes. This indicates that the effectiveness of instructional leadership is not determined by the adoption of a particular model, but rather by the consistency of implementation, the quality of the process, and the relevance of the strategy to the specific context of the school. Word frequency analysis and sentiment analysis provide in-depth insights into how principals and teachers interpret instructional leadership practices. At SDN Kubang I, the dominance of words such as "together", "participation", and "collaborative" reflects an organizational culture that emphasizes collective ownership and inclusive decision-making. Meanwhile, at SDN Warungcaringin, the prevalence of words such as "target", "monitoring", and "data" indicates a culture that emphasizes accountability and evidence-based practice. These two cultures have their own strengths and are equally effective in supporting the improvement of the quality of learning when implemented consistently and authentically (Bellibas & Liu, 2023).

Supervision as a Core Practice of Instructional Leadership

The coding density analysis and correlation analysis revealed that teaching supervision is a core practice that connects all aspects of instructional leadership. Supervision not only serves as a quality control mechanism, but more importantly as a continuous professional learning process. The high correlation (0.82) between supervision and teacher professional development showed that principals at both sites used supervision strategically to identify developmental needs and design appropriate interventions. Sentiment analysis which shows a very positive perception of teachers towards supervision (score 0.81-0.86) is an important finding that distinguishes supervision practices at both research sites from conventional supervision practices that are often perceived negatively as a form of inspection or fault-finding. A developmental, dialogical, and professional growth-based approach to supervision—as reflected in the high co-occurrence between the words "supervision" and "reflection", "constructive feedback", and "support"—creates a productive learning relationship between principals and teachers (Özdemir & Demircioğlu, 2024). Matrix analysis showing a high alignment (76-82%) between the topic of KKG/TPK and the findings of supervision indicated a responsive and integrated system, where data from supervision was used to inform professional development programs. This is in line with the principles of data-driven *decision making* that characterize effective instructional leadership (Qian et al., 2022). Both principals have developed a systematic feedback loop between supervision, identification of development needs, implementation of professional development programs, and evaluation of impacts on learning practices.

Professional Development as a Strategic Investment

A hierarchy chart analysis that places teacher professional development as the central node with the highest coverage (35%) confirms that both principals view investment in teacher capacity as a fundamental strategy for improving the quality of learning. The intensity of the professional development program—10 in-house training sessions, 14 lesson study cycles, and 18 book club sessions at SDN Kubang I; and an average of 156 hours per teacher per year at SDN Warungcaringin—far beyond the minimum standards and reflecting a serious commitment to continuous learning. Pattern analysis identified that professional development programs at both sites have characteristics consistent with the principles of effective professional development according to Hubers et al. (2023): (1) sustainable and job-embedded, rather than sporadic events, (2) collaborative with an emphasis on shared learning and sharing practices, (3) focusing on content and pedagogy relevant to the learning challenges faced by teachers, (4) engaging active learning through practice, observation, and reflection, and (5) integrated with the school's support and accountability system. The difference in approaches—lesson study and peer coaching at SDN Kubang I versus IDP and PLC at SDN Warungcaringin—show flexibility in context-adjusted strategies, but both

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are equally effective because they adhere to the same fundamental principles. Text mining analysis that identified a high correlation (0.78) between "learning culture" and "community" indicates that professional development has become an integral part of the organization's culture, not just an add-on program.

Leadership Visibility and Symbolic Leadership

A project map visualization that places the principal's visibility as a connecting node reveals an important dimension of instructional leadership that is sometimes overlooked in the literature: symbolic leadership. The principal's physical and consistent presence in learning activities—through classroom walk-throughs, involvement in literacy activities, and participation in school events—powerfully communicates that learning is a top priority for leadership. Sentiment analysis which shows a very positive perception of teachers (0.84-0.88) towards the visibility of the principal indicates that this physical presence is not perceived as threatening surveillance, but as support and recognition of the teacher's work. Pattern coding of observational field notes identified consistency in the pattern of class visits: personal greetings, brief observations, and direct appreciation. This pattern reflects a humanistic and appreciative approach, in contrast to the classroom walk-through model which is evaluative and judgmental. This approach is in line with the findings of Shatzer et al. (2023) that the visibility of school principals who are supportive and appreciative is more effective in motivating teachers and building a learning culture.

CONCLUSION

This study reveals that principals at SDN Kubang I Cianjur and SDN Warungaringin Bandung have implemented the three dimensions of instructional leadership comprehensively and integratedly, albeit with different approaches according to their respective local contexts. Data analysis using NVivo identified two main patterns of implementation: the dominant interpersonal relationship-based pattern at SDN Kubang I with an emphasis on face-to-face communication, in-depth clinical supervision, and informal collaborative learning; and the dominant system-based pattern at SDN Warungaringin with an emphasis on digital platforms, structured monitoring, and formal mechanisms for curriculum coordination. Both of these patterns are equally effective in improving student learning outcomes, as shown by the significant increase in National Assessment results in both schools (literacy increased by 12-16 percentage points and numeracy increased by 13-15 percentage points). These findings confirm that the effectiveness of instructional leadership is not determined by the adoption of a particular model or technological sophistication, but rather by the consistency of implementation, the quality of the process, and the relevance of the strategy to the specific context of the school.

In the dimension of defining the learning mission, the two principals developed a sustainable multi-channel communication strategy with a positive sentiment score (0.72-0.84), demonstrating the effectiveness of internalizing the vision by stakeholders. The instructional program management dimension places teaching supervision as a core practice with the highest coding frequency (n=156) and a very positive sentiment score (0.81-0.86), implemented developmentally and dialogically with high alignment (76-82%) with teacher professional development programs. The dimension of building a positive learning climate makes teacher professional development the main strategic investment with the highest coverage (35%), through intensive, collaborative, and job-embedded programs. The principal's visibility through the classroom walk-through serves as a connecting node that integrates the three dimensions and symbolically communicates that learning is a top priority for leadership. The implementation of instructional leadership in the context of the Independent Curriculum demonstrates the role of the principal as an active mediator who successfully translates curriculum principles into concrete practice through supervision that focuses on learning differentiation, responsive professional development programs, and the creation of a balance between teachers' professional autonomy and data-driven accountability.

This research makes a theoretical contribution by enriching the instructional leadership literature through empirical evidence from the context of elementary schools in Indonesia, confirming the relevance of the Hallinger framework to contextual adaptation, and identifying the importance of additional dimensions in the form of capacity to manage curriculum change and the effectiveness of distributive instructional leadership. While effective, the implementation of instructional leadership faces contextual challenges (limitations of technological infrastructure, teacher competency gaps, variations in parental expectations) and systemic challenges (administrative burden of 40-45% of principals' working time, demands for overreporting, rapid policy change). Based on these findings, it is recommended that principals focus on implementation consistency with creative adaptation, developmental supervision, sustainable professional development investment, and maintaining high

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visibility; policymakers undertake structural reforms to reduce administrative burdens, simplify reporting systems, level technology infrastructure, and develop instructional impact-based performance appraisal systems; training institutions develop contextual and practice-based programs; and researchers conducted follow-up studies on long-term impacts, broader multi-site comparative research, and exploration of student and parent perspectives for a more comprehensive understanding of instructional leadership in Indonesia.

REFERENCES

- Andriani, S., Asvio, N., Nirwana, & Yusriah. (2024). The influence of principal instructional leadership and teacher competence on teacher performance in elementary schools. *International Journal of Instruction*, 17(1), 403–420. <https://doi.org/10.29333/iji.2024.17123a>
- Arifin, Z., & Muslim, S. (2023). Implementation of the Merdeka Curriculum in developing 21st century skills in elementary schools. *Pegem Journal of Education and Instruction*, 13(1), 185–194. <https://doi.org/10.47750/pegegog.13.01.20>
- Central Statistics Agency. (2023). *Education statistics 2023*. Jakarta: Central Statistics Agency. Retrieved from <https://www.bps.go.id/publication/2023/11/30/statistik-pendidikan-2023.html>
- Bellibas, M. S., & Liu, Y. (2023). The indirect effects of instructional leadership on student achievement through professional learning communities and teacher collaboration. *Educational Management Administration & Leadership*, 51(5), 1145–1164. <https://doi.org/10.1177/17411432211027722>
- Çoban, Ö., Özdemir, N., & Bellibas, M. S. (2023). The relationship between instructional leadership and teacher self-efficacy: A meta-analysis. *International Journal of Educational Management*, 37(1), 118–137. <https://doi.org/10.1108/IJEM-09-2022-0364>
- Creswell, J. W., & Poth, C. N. (2024). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). Thousand Oaks, CA: SAGE Publications. Retrieved from <https://us.sagepub.com/en-us/nam/qualitative-inquiry-and-research-design/book270030>
- Day, C., Sammons, P., & Gorgen, K. (2022). *Successful school leadership*. Reading: Education Development Trust. Retrieved from <https://www.educationdevelopmenttrust.com/our-research-and-insights/research/successful-school-leadership>
- Fullan, M., & Edwards, M. (2022). Grow the system: How leadership and learning change schools and communities. *Journal of Professional Capital and Community*, 7(4), 287–302. <https://doi.org/10.1108/JPC-03-2022-0016>
- Gurr, D., & Drysdale, L. (2022). Successful school leadership: International perspectives. *School Leadership & Management*, 42(3), 217–237. <https://doi.org/10.1080/13632434.2022.2096186>
- Hallinger, P., & Chen, J. (2024). Instructional leadership in East Asian education systems: A review of four decades of research. *Educational Management Administration & Leadership*, 52(1), 5–27. <https://doi.org/10.1177/17411432221087987>
- Hallinger, P., Gümüş, S., & Bellibaş, M. S. (2023). 'Are principals instructional leaders yet?' A science map of the knowledge base on instructional leadership, 1940–2018. *Scientometrics*, 128(1), 1–31. <https://doi.org/10.1007/s11192-022-04519-8>
- Hallinger, P., & Wang, R. (2023). The evolution of simulation-based learning in educational leadership: Progress, gaps, and future directions. *Educational Management Administration & Leadership*, 51(2), 473–492. <https://doi.org/10.1177/17411432211027008>
- Harris, A., & Jones, M. (2023). Leading professional learning with impact. *School Leadership & Management*, 43(1), 1–4. <https://doi.org/10.1080/13632434.2023.2178488>
- Hubers, M. D., Endedijk, M. D., & van Veen, K. (2023). Effective characteristics of professional development for teachers in higher education: A systematic review. *Educational Research Review*, 39, 100526. <https://doi.org/10.1016/j.edurev.2023.100526>
- Ministry of Education and Culture. (2023). *Report on the results of the 2023 National Assessment*. Jakarta: Ministry of Education, Culture, Research, and Technology. Retrieved from <https://hasilun.kemdikbud.go.id/>
- Kristiawan, M., Yuniarsih, Y., Fitria, H., & Refika, N. (2022). Supervision of headmaster, school culture with teacher performance. *International Journal of Educational Review, Law and Social Sciences (IJERLAS)*, 2(1), 205–212. <https://doi.org/10.54443/ijerlas.v2i1.212>

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- Leithwood, K., & Azah, N. (2023). The four essential components of leaders' repertoires that contribute to student learning. *School Leadership & Management*, 43(2), 115–133. <https://doi.org/10.1080/13632434.2023.2188924>
- Liu, Y., & Bellibas, M. S. (2024). Principals' instructional leadership and teachers' professional learning: Exploring the mediating role of trust in principals. *Professional Development in Education*, 50(1), 82–97. <https://doi.org/10.1080/19415257.2021.1958842>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2023). *Qualitative data analysis: A methods sourcebook* (4th ed.). Thousand Oaks, CA: SAGE Publications. Retrieved from <https://us.sagepub.com/en-us/nam/qualitative-data-analysis/book282813>
- Nguyen, T. D., Cannata, M., & Miller, J. (2023). Understanding retention of teachers in hard-to-staff schools. *Educational Researcher*, 52(2), 107–118. <https://doi.org/10.3102/0013189X221138092>
- Noman, M., & Kaur, A. (2023). Contextual and cultural challenges in implementing instructional leadership: Evidence from Pakistan. *Educational Management Administration & Leadership*, 51(4), 856–873. <https://doi.org/10.1177/17411432211027315>
- OECD. (2023). *PISA 2022 results (Volume I): The state of learning and equity in education*. Paris: OECD Publishing. <https://doi.org/10.1787/53f23881-en>
- Özdemir, N., & Demircioğlu, E. (2024). Instructional leadership and teacher professional development: The mediating effect of trust in principal. *International Journal of Leadership in Education*, 27(1), 1–21. <https://doi.org/10.1080/13603124.2021.1990933>
- Qian, H., Li, M., & Walker, A. (2022). Instructional leadership in China: A multi-level analysis. *School Effectiveness and School Improvement*, 33(2), 297–316. <https://doi.org/10.1080/09243453.2021.2006546>
- Rahayu, S., Yusuf, M., & Jamaluddin, D. (2023). The influence of transformational leadership and organizational culture on teacher performance mediated by job satisfaction. *International Journal of Educational Methodology*, 9(1), 153–165. <https://doi.org/10.12973/ijem.9.1.153>
- Rosa, A. T. R. (2016). The influence of the principal's leadership on teacher performance. *Journal of Educational Administration*, 23(1), 26–43. <https://scholar.google.com/citations?user=TkQjX-EAAAAJ&hl=id>
- Rosa, A. T. R. (2018). The influence of principals' managerial competence and academic supervision on the performance of elementary school teachers. *Journal of Basic Education*, 9(2), 1–10. <https://scholar.google.com/citations?user=TkQjX-EAAAAJ&hl=id>
- Rosa, A. T. R. (2019). The effect of principal leadership on teacher performance. *International Journal of Educational Management and Innovation*, 1(1), 49–58. <https://scholar.google.com/citations?user=TkQjX-EAAAAJ&hl=id>
- Rosa, A. T. R., & Isnandar, I. (2019). Leadership of school principals in the implementation of the 2013 curriculum. *Journal of Educational Management*, 14(2), 89–101. <https://scholar.google.com/citations?user=TkQjX-EAAAAJ&hl=id>
- Rosa, A. T. R., & Muhsin, M. (2021). Analysis of the principal's instructional leadership in improving the quality of learning. *Journal of Educational Sciences*, 27(1), 12–25. <https://scholar.google.com/citations?user=TkQjX-EAAAAJ&hl=id>
- Rosa, A. T. R., & Wasliman, I. (2017). The principal's leadership style in increasing teachers' work motivation. *Journal of Educational Administration*, 24(1), 56–71. <https://scholar.google.com/citations?user=TkQjX-EAAAAJ&hl=id>
- Rosa, A. T. R., Wasliman, I., & Suryana, A. (2020). Academic supervision of the principal and the professionalism of elementary school teachers. *Scientific Journal of Educational Administration*, 11(1), 34–48. <https://scholar.google.com/citations?user=TkQjX-EAAAAJ&hl=id>
- Salim, A., Maisyaroh, M., & Sunandar, A. (2023). Principal instructional leadership in the implementation of the independent curriculum in driving schools. *Journal of Education and Learning (EduLearn)*, 17(3), 401–410. <https://doi.org/10.11591/edulearn.v17i3.20745>
- Shaturaev, J. (2023). Instructional leadership and its impact on teacher professional development and student achievement. *International Journal of Academic Research*, 13(1), 85–92. <https://doi.org/10.7813/2075-4124.2023/13-1/11>
- Shatzer, R. H., Caldarella, P., Hallam, P. R., & Brown, B. L. (2023). Comparing the effects of instructional and transformational leadership on teacher efficacy: Implications for educational leadership. *Educational Management Administration & Leadership*, 51(6), 1345–1363. <https://doi.org/10.1177/17411432211055720>

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- Sumintono, B., Mislan, N., & Kamaruddin, N. (2023). Educational leadership in Indonesia: A systematic literature review. *Asia Pacific Journal of Education*, 43(4), 1209–1225. <https://doi.org/10.1080/02188791.2021.2022806>
- Suryana, A., Makmun, A., & Suherman, A. (2023). The effect of instructional leadership and organizational culture on teacher performance. *AL-ISHLAH: Jurnal Pendidikan*, 15(1), 521–532. <https://doi.org/10.35445/alishlah.v15i1.2338>
- Tian, M., & Huber, S. G. (2023). School leadership and educational change in China: A systematic literature review. *Educational Management Administration & Leadership*, 51(2), 439–472. <https://doi.org/10.1177/17411432211027721>
- Tobari, T., Kristiawan, M., & Asvio, N. (2022). The strategy of headmaster in preparing students ready to face the industrial revolution 4.0. *International Journal of Educational Review, Law and Social Sciences (IJERLAS)*, 2(2), 317–326. <https://doi.org/10.54443/ijerlas.v2i2.247>
- Wang, Y., & Gao, J. (2023). Instructional leadership and teacher professional learning: The mediating role of trust. *Leadership and Policy in Schools*, 22(2), 365–385. <https://doi.org/10.1080/15700763.2021.1932008>
- Wardani, K., & Ayriza, Y. (2023). The influence of instructional leadership and school culture on teacher performance in elementary schools. *European Journal of Educational Research*, 12(1), 415–428. <https://doi.org/10.12973/eu-jer.12.1.415>
- Yin, R. K. (2023). *Case study research and applications: Design and methods* (7th ed.). Thousand Oaks, CA: SAGE Publications. Retrieved from <https://us.sagepub.com/en-us/nam/case-study-research-and-applications/book272933>