



The Influence of School Principal Leadership on the Improvement of Literacy and Numeracy Achievements Based on Education Reports At Junior High School

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Abstract

This article analyzes the influence of the principal's leadership on improving literacy and numeracy achievements at Junior High School, using Education Report data from 2022 to 2025. Employing a qualitative descriptive approach with document analysis and interviews involving 10 teachers and the school principal, the study examines how leadership practices affect student learning outcomes. The findings reveal a substantial increase in literacy achievement from 51.11% in 2022 to 86.67% in 2025, and in numeracy from 31.11% to 74.42% over the same period. This progress is attributed to the principal's strategic focus on data-based learning, consistent academic supervision, and teacher empowerment. By systematically analyzing educational data, the principal identifies learning gaps and implements targeted interventions. Academic supervision sessions enhance pedagogical practices, while structured professional development fosters teacher innovation. Furthermore, the principal cultivates a collaborative culture where teachers share best practices and engage in continuous training. These results highlight the principal's role as a change agent who fosters a supportive and high-achieving school environment. The study underscores the importance of effective leadership in strengthening educational quality, particularly in literacy and numeracy. It recommends that school leaders adopt evidence-based strategies and prioritize teacher development to drive sustainable learning improvements.

Keywords: *Leadership, Literacy, Numeracy, Supervision, Teacher Empowerment.*

Introduction

The Education Report is a key instrument for evaluating the quality of education in Indonesia, offering an objective overview of students' academic performance, particularly in literacy and numeracy. These data serve as vital tools for school-level decision-making, enabling principals and educators to identify gaps, plan targeted interventions, and monitor the impact of improvement programs. In the post-pandemic era, when schools are grappling with the learning losses and disruptions caused by COVID-19, the strategic use of Education Report data has become increasingly important.

The COVID-19 pandemic caused major shifts in the education system, forcing schools to transition abruptly to remote and hybrid models of learning. These changes demanded rapid adaptation to new modes of instruction and significant restructuring of leadership approaches within schools. In this context, the role of the principal has evolved to become more dynamic and data-driven. Principals are now expected not only to maintain administrative operations but also to make timely and informed decisions to support teaching and learning continuity (Sanhaji & Adi Fadli, 2021). The Education Report provides a foundation for these decisions, guiding strategic planning, program implementation, and the evaluation of efforts to improve learning outcomes (Khodijah & Haq, 2021).

Effective school leadership particularly instructional leadership is a critical factor in navigating the post-pandemic recovery phase. Instructional leadership emphasizes the principal's role in guiding, mentoring, and supporting teachers to enhance instructional quality. Adaptive and collaborative leadership styles have been shown to foster a positive school climate, strengthen professional learning communities, and empower teachers to innovate (Khariismawati, 2024). Research consistently shows that leadership effectiveness, especially in decision-making and capacity-building, contributes significantly to the enhancement of teacher performance and student achievement (Nupusiah, 2024).

Moreover, successful school leadership involves engaging all stakeholders—teachers, students, parents, and school staff—in the learning improvement process. When principals facilitate inclusive and participatory decision-making, they create a shared vision and collective responsibility for school goals. This participatory approach strengthens communication, increases stakeholder ownership, and enhances the sustainability of educational programs (Narendas, Suyatno, 2024). Collaborative efforts also ensure that programs reflect the contextual needs of the school community and are implemented with greater commitment and alignment.

Despite the growing recognition of the principal's leadership role in post-pandemic recovery, there is still a lack of case-based research that analyzes how principals use Education Report data to drive tangible improvements in literacy and numeracy. Previous studies have explored general leadership impacts, but few have specifically examined how data utilization, instructional leadership, and teacher empowerment intersect to improve student outcomes in rural or under-resourced schools.

This study seeks to fill that gap by focusing on Junior High School, a public junior high school that has shown significant gains in literacy and numeracy achievement between 2022 and 2025. This school was selected due to its remarkable progress during a period marked by national learning recovery efforts, making it an ideal case to investigate the link between data-informed leadership practices and educational outcomes.

The main objectives of this study are: (1) to analyze the strategies employed by the principal of Junior High School in using Education Report data to improve learning outcomes; (2) to examine how instructional leadership practices, including academic supervision and teacher empowerment, contribute to literacy and numeracy achievements; and (3) to identify best practices and lessons that can inform school leadership in similar contexts.

This article is structured as follows: The next section outlines the research methodology used in this case study, including data collection techniques and participant profiles. This is followed by the results and discussion section, which presents key findings and compares them with prior studies. The final section concludes with practical recommendations for school leaders and policymakers aiming to enhance educational quality through data-driven and collaborative leadership strategies.

Method

This study employed a quantitative descriptive research design to analyze secondary data obtained from the Education Reports of Junior High School for the academic years 2022, 2023, and 2024. These reports included comprehensive records of student literacy and numeracy achievements, categorized into four performance levels: Very Good, Achieved, Needing Intervention, and Not Achieved. The analysis focused on identifying trends and patterns of student performance over time, with specific attention to year-over-year changes.

The data source was obtained directly from the school's internal documentation system and cross-verified with local education office records to ensure accuracy and consistency. The dataset covered all Grade 7 to Grade 9 students at Junior High School across the three academic years. On average, the school enrolled approximately 180 students per year, with fairly balanced gender distribution and a predominantly rural demographic background.

To process the data, percentage distributions were calculated for each achievement category per year. A trend analysis was then performed to compare the progression of literacy and numeracy levels across the observed period. Additionally, the data were examined in relation to documented school leadership practices during the same years. These leadership activities such as academic supervision schedules, teacher training records, and meeting notes were qualitatively matched to improvements in achievement outcomes using a cross-

referencing matrix.

Although the core of the study is quantitative, the interpretation of results was informed by instructional leadership theory, particularly focusing on domains such as setting learning goals, coordinating curriculum, and promoting professional development. To enhance the validity and reliability of the findings, triangulation was applied by comparing Education Report data with observational records and stakeholder interview summaries (conducted as a secondary support method). Any anomalies in the data were further checked against archived student assessments and attendance logs.

Statistical analysis was limited to descriptive statistics primarily percentages and comparative bar charts since the aim was to evaluate patterns rather than test causal hypotheses. No inferential statistical tests were used, and therefore, generalizations beyond this case study are not claimed. Ethical considerations were also addressed. Permission to access and analyze school data was formally obtained from the school principal and the local education authority. All student data were anonymized to maintain confidentiality, and no personally identifiable information was included in the analysis. Finally, the limitations of this study include its reliance on secondary data from a single school, which may not capture the full complexity of leadership influences. Furthermore, because the study does not apply inferential statistics, the findings are descriptive and exploratory in nature, meant to guide further research rather than establish definitive conclusions.

Results and Discussion

Instructional leadership is a leadership concept that emphasizes a primary focus on improving the quality of learning through curriculum management, academic supervision, and the professional development of teachers (Ahmad Hoerudin, Dedy Achmad Kurniady, 2024). (Hallinger & Ko, 2016), explain that instructional leadership consists of three main dimensions: defining the school mission, managing instructional programs, and creating a positive learning climate, which together contribute to the improvement of student learning outcomes (Mala et al., 2021). In this context, the principal acts as a change agent who directs the entire school community to focus on achieving academic goals through data-driven decision-making and continuous supervision (Sukmawati & Herawan, 2017).

Furthermore, instructional leadership also requires school principals to professionally empower teachers by providing training, guidance, and facilities that support the learning process (Ahmad Hoerudin, Dedy Achmad Kurniady, 2024). This approach not only enhances teachers' competencies but also creates a collaborative and innovative school culture, which ultimately improves student engagement and learning outcomes (Mala et al., 2021). This is in line with research findings that show effective school principals are able to clearly communicate the school's vision and mission, supervise and evaluate the learning process, and systematically monitor student progress (Hallinger & Ko, 2016).

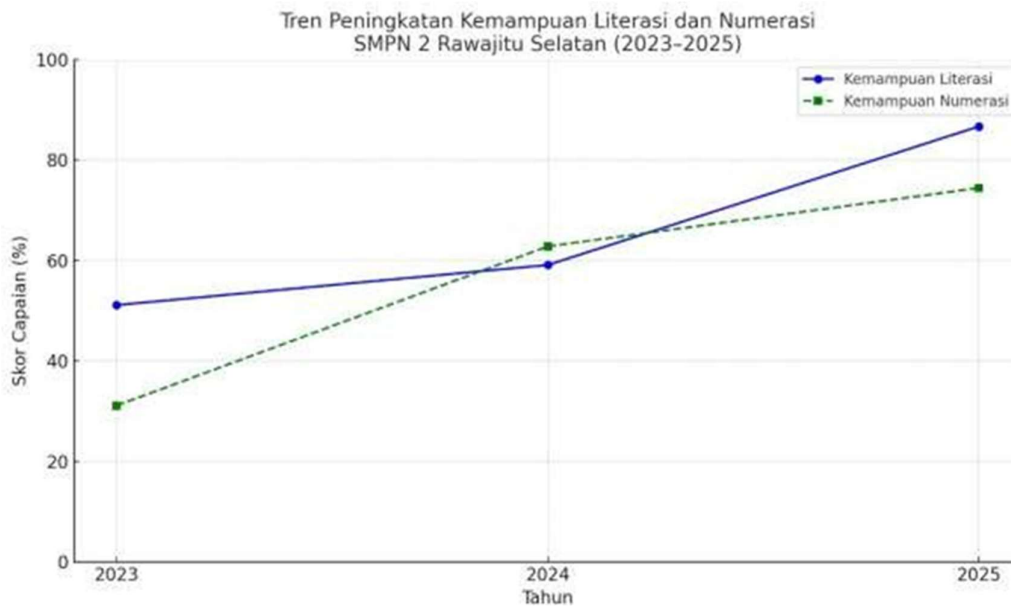
Furthermore, effective instructional leadership is also associated with increased teacher motivation and the creation of a conducive learning climate, which are important factors in improving the quality of education (Ritonga, R., Aktar, S., & Dongoran, 2023). A principal who is able to build trust and provide full support to teachers will significantly encourage the improvement of teaching performance and student learning outcomes. Such support can take the form of providing constructive feedback, facilitating training and professional development, and creating collaborative spaces for teachers to share best practices. With a positive school climate, teachers feel valued and motivated to innovate in their teaching methods, making the learning process more effective and enjoyable for students. This condition further creates a cycle of sustainable educational quality improvement, where teacher motivation and student learning outcomes mutually reinforce each other.

The implementation of instructional leadership at Junior High School, which focuses on data-driven learning program management, active academic supervision, and teacher empowerment, is an application of the principles of instructional leadership that have been widely discussed in the literature. (Hallinger & Ko, 2016), emphasize that instructional leadership involves the systematic management of curriculum and learning, as well as the creation of a conducive school climate to improve student learning outcomes (Melawati et al., 2022). By utilizing Education Report data as a basis for decision-making, school principals can accurately identify learning needs and design effective interventions, in line with the monitoring and evaluation concept that is an important part of instructional leadership (Khariismawati, 2024).

Based on the observation results of the Education Report of Junior High School from 2022 to 2025, significant data on the improvement of literacy and numeracy skills were obtained. It can be seen in the following table:

Code	Key Indicators	2023	2024	2025
A.1	Kemampuan Literasi (Skor)	51.11	59.09	86.67
A.1.x	→ Sangat Baik	2.22%	4.55%	37.78%
	→ Mencapai	48.89%	54.55%	48.89%
	→ Perlu Intervensi	37.78%	34.09%	13.33%
	→ Belum Mencapai	11.11%	6.82%	0.00%
A.2	Kemampuan Numerasi (Skor)	31.11	62.79	74.42
A.2.x	→ Sangat Baik	2.22%	18.60%	23.26%
	→ Mencapai	28.89%	44.19%	51.16%
	→ Perlu Intervensi	53.33%	30.23%	20.93%
	→ Belum Mencapai	15.56%	6.98%	4.65%

(Picture 1)



(Picture 1)

Analysis of the Education Report data for Junior High School from 2023 to 2025 shows a significant increase in students' literacy and numeracy achievements. The literacy score increased from 51.11% in 2023 to 86.67% in 2025, while the numeracy score rose from 31.11% to 74.42% in the same period. Additionally, the proportion of students categorized as "not yet achieved" has consistently decreased, while the "very good" category has shown a sharp increase. This change indicates a significant improvement in the quality of learning at the school.

Furthermore, active and continuous academic supervision enables school principals to provide direct guidance to teachers in improving the quality of the learning process, as explained by Glickman, Gordon, and Ross-Gordon (2001), who state that instructional leadership includes continuous assistance and professional development for teachers (Mala et al., 2021). Empowering teachers through training and facilitating collaboration also strengthens an innovative and quality-oriented school culture, in line with the role of the principal as a facilitator and motivator in the instructional leadership model (Maula & Hidayatullah, 2024).

Thus, the implementation of integrated instructional leadership at Junior High School reflects an effective leadership strategy in improving students' literacy and numeracy achievements. This approach not only optimizes the management of data-based learning programs but also strengthens teachers' capacities through supervision and empowerment, thereby significantly contributing to the sustainable improvement of learning outcomes (Logho, n.d.) Strong instructional leadership is a key factor in achieving better educational quality in schools. Principals who effectively implement instructional leadership are able to direct and coordinate all school resources to focus on improving student learning outcomes.

Additionally, this leadership also encourages the creation of a collaborative and innovative learning culture, so that the learning process continues sustainably and is oriented towards the overall improvement of education quality.

The results of this study reinforce the theory that instructional leadership is an effective model of leadership in improving the quality of education through focused learning management, teacher empowerment, and the creation of a positive academic climate. The implementation of these principles at Junior High School shows that the principal plays a strategic role as a change agent capable of mobilizing the entire school community towards achieving optimal learning outcomes.

The improvement in literacy and numeracy achievements is very likely related to the principal's leadership, who effectively implements instructional leadership (Nisak et al., 2025). The principal is suspected of implementing several key strategies, including data-driven decision-making based on the Education Report, active and continuous learning supervision, facilitation of teacher training, and the creation of an academic culture that supports collaboration and innovation within the school environment. This approach aligns with the concept of instructional leadership, which prioritizes the improvement of student learning outcomes (Darmuki & Surachmi, 2024).

According to (Hallinger & Ko, 2016), effective instructional leadership is one that can direct all school members to focus on improving the quality of learning through resource management, teacher capacity development, and the use of data as a basis for decision-making (Sumiati, 2023). At Junior High School, significant changes in learning outcomes can be a strong indicator that the principal acts as an agent of change who successfully drives all school components towards achieving better educational goals. This is in line with previous research findings that indicate that visionary and data-driven school leadership can significantly improve teacher performance and student learning outcomes (Nor & Suriansyah, 2019).

Thus, the results of this study emphasize the importance of the principal's role in implementing data-driven and collaborative instructional leadership as the key to successfully improving literacy and numeracy achievements in junior high schools. Sustained efforts in academic supervision and teacher empowerment are the main supporting factors in creating a productive and innovative school culture, which ultimately has a positive impact on the quality of learning and student achievement.

Conclusion

The improvement in literacy and numeracy achievements at Junior High School, based on the Education Report, shows that the principal's leadership has a significant impact on the quality of learning. Through academic supervision strategies, data-driven decision-making, and strengthening teacher collaboration,

the principal is able to create a learning ecosystem that has a tangible impact on students. This article recommends the importance of strengthening the leadership capacity of school principals as a key to transforming the quality of education.

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