

Leading under resource constraints: Principal leadership, teacher professionalism, and educational quality in a rural Indonesian school

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Abstract

Principal leadership plays a crucial role in maintaining educational quality, particularly in rural schools facing limitations in facilities, budget, technology, access to training, and human resources. This study aims to analyze how principal leadership practices are implemented to support teacher professionalism and the quality of the educational process under resource-constrained conditions. The study employed a descriptive qualitative approach using a case study design at SMPN 1 Muara Jawaq, West Kutai Regency, East Kalimantan. Informants were selected through purposive sampling and consisted of one principal, eight teachers, and two educational support staff. Data were collected through in-depth interviews, direct observation, and documentation, then analyzed through data condensation, data presentation, and the drawing and verification of conclusions using triangulation. The results of the study indicate that the principal exercises leadership through policy adjustment, program planning, task allocation, guidance, coordination, motivation, supervision, and evaluation. These practices are related to teacher professionalism, as reflected in discipline, teaching readiness, professional responsibility, and the development of instructional materials, as well as to the quality of the educational process through the regularity of instruction, administration, and school coordination. However, professional development and supervision are not yet fully equitable or sustainable. The study concludes that resource constraints are contextual conditions that shape leadership choices and priorities. Strengthening rural schools therefore requires a combination of leadership capacity building, ongoing supervision, equitable training, and increased resource support.

Keywords: School principal leadership, resource constraints, teacher professionalism, quality of the educational process, rural schools

Introduction

Principal leadership is a strategic factor in determining the quality of educational delivery because principals serve not only as administrators but also as learning leaders who guide the academic vision, develop teacher capacity, and create an organizational environment that supports school improvement. The literature indicates that a school's success is heavily influenced by a leader's ability to set direction, build professional capacity, and create working conditions that support learning (Hallinger, 2011; Leithwood *et al.*, 2020) ^[10, 15]. In the context of contemporary education, the demands on school leadership are becoming increasingly complex, as school principals are also faced with the need to develop teachers' digital competencies, integrate technology into learning, and adapt professional development models to align with educational transformation (Reis-Andersson, 2024; Chiu *et al.*, 2024; Claro *et al.*, 2024) ^[3, 4, 19]. Therefore, improving the quality of education depends not only on individual teachers' competencies but also on the capacity of school leadership to organize, support, and develop available resources.

This complexity is even more evident in schools located in rural areas that face resource constraints. In the context of this study, schools face a number of challenges, including limited internet access, the lack of computer labs, a limited library collection, and relatively remote locations from the district center. Teachers' professional profiles also reveal disparities across different types of competencies. The results of the needs assessment indicate that 72% of teachers meet the standards for pedagogical competencies, 65% for

professional competencies, 88% for social competencies, and 90% for personal competencies; however, only 48% meet the standards for instructional technology competencies. This situation demonstrates that the issue of educational quality is not merely a matter of individual teacher competence but is also related to limitations in facilities, professional development opportunities, technological support, and the school's capacity to manage resources. Under such conditions, the leadership of the school principal becomes crucial for bridging the gap between the demands for quality improvement and the limitations of organizational capacity.

A number of previous studies have shown that school leadership contributes to teachers' professional development. Hendawy Al-Mahdy *et al.* (2024) ^[12] found that school principal leadership supports teacher professional learning through trust and teacher agency, while Huang *et al.* (2023) ^[13] demonstrated the influence of school principal leadership on teachers' professional learning. From an instructional leadership perspective, Dorukbaşı and Cansoy (2024) ^[8] demonstrate that teachers' professional learning can serve as a mechanism linking instructional leadership to teaching practices, while Dasci Sonmez *et al.* (2025) ^[7] emphasize that both instructional leadership and teacher leadership play a role in strengthening professional learning. These findings are consistent with the view that teachers' professional development requires a process of continuous mentoring, reflective supervision, learning opportunities, and organizational support that enables teachers to continuously

improve their competencies (Darling-Hammond *et al.*, 2017; Glickman *et al.*, 2018; Hargreaves & Fullan, 2012) ^[6, 9, 11].

However, the existing literature still leaves significant gaps. Most previous studies have primarily examined whether school principal leadership influences professional learning or teacher development, while explanations of how leadership practices function under resource-constrained conditions remain relatively limited. Studies in Indonesia indicate that school conditions, organizational support, and leadership influence teachers' opportunities to learn and develop (Rahman, 2022), while Amzat *et al.* (2022) ^[1, 18] highlight the importance of instructional and distributed leadership in teachers' professional development. Revina *et al.* (2023) ^[20] also note that teachers' professional development in Indonesia still faces sustainability challenges. In rural contexts, Kulophas and Hallinger (2024) ^[12] as well as Nawab and Quraishi (2025) ^[17] emphasize that local characteristics, resource constraints, and leadership capacity can influence the effectiveness of learning and teachers' professional development. Nevertheless, there remains a limited body of research that thoroughly explains how school principals simultaneously manage supervision, competency development, motivation, coordination, and evaluation to maintain educational quality under conditions of limited facilities, access to training, and digital capacity in rural schools in Indonesia.

Given this gap, the novelty of this study lies in its contextual and process-oriented perspective in understanding school leadership within resource-constrained environments. Rather than merely assessing the relationship between leadership and the “ ” of teacher professionalism, this study explores how leadership is translated into concrete practices such as guidance, mentoring, motivation, organization, academic supervision, competency development, coordination, and program evaluation. This approach enables the study to explain the mechanisms of leadership at work in real-world contexts, including how school principals respond to resource constraints and disparities in teacher competencies. This is important because leadership in rural schools cannot be separated from environmental characteristics, the availability of facilities, technological support, and access to professional development (Kulophas & Hallinger, 2024; Nawab & Quraishi, 2025; Reis-Andersson, 2024) ^[12, 17, 19]. Thus, this study provides a more contextual understanding of the relationship between leadership, teacher professionalism, and educational quality in school environments with limited resources.

Based on this argument, this study aims to analyze how school principal leadership plays a role in enhancing teacher professionalism and educational quality in rural schools in Indonesia facing resource constraints, as well as to identify the strategies and constraints that influence the implementation of such leadership. Specifically, this study examines leadership practices related to academic supervision, teacher competency development, motivation, organizational coordination, and school program evaluation. Using a qualitative approach, this study is expected to broaden the understanding of school leadership by providing contextual evidence on how leadership practices are carried out in situations of resource constraints, while also offering practical implications for the development of school

leadership and the strengthening of teacher professionalism in rural areas of Indonesia.

Literature Review

1. Principal Leadership and Teacher Professionalism

Principal leadership is a critical factor in improving school quality because principals not only perform administrative functions but also set the direction, develop teachers' capacities, and create an organizational environment that supports learning. The “leadership for learning” perspective positions the principal as an actor who connects the school's vision, the learning process, and teachers' professional development (Hallinger, 2011). Leithwood *et al.* (2020) ^[10, 15] also demonstrate that effective school leadership is characterized by the ability to set direction, develop individuals, and build an organization that supports improvements in educational quality.

The relationship between school principal leadership and teacher professionalism is further reinforced by recent research. Hendawy Al-Mahdy *et al.* (2024) ^[12] demonstrate that school principal leadership plays a role in supporting teacher professional learning, while Huang *et al.* (2023) ^[13] confirm the link between school leadership and teacher professional learning. Dorukbaşı and Cansoy (2024) ^[8] also show that teacher professional learning can serve as a mechanism linking instructional leadership to teaching practices. These findings indicate that teacher professionalism develops through the interaction of individual competencies, leadership support, supervision, and school organizational conditions.

2. Professional Learning and Educational Quality

Teacher professionalism is a process that develops through continuous learning, reflection, collaboration, and competency development. Hargreaves and Fullan (2012) ^[11] explain that the professional quality of teachers depends not only on individual abilities but also on professional capital built through professional relationships and organizational support. Darling-Hammond *et al.* (2017) ^[6] emphasize that effective professional development must be ongoing, based on active and collaborative learning, and provide coaching and feedback. In this context, academic supervision serves as a key mechanism to help teachers systematically improve their teaching practices (Glickman *et al.*, 2018) ^[9].

Teachers' professional learning is closely linked to the quality of education, as improving teachers' competencies can enhance the quality of instruction, classroom management, instructional innovation, and the learning environment. Dasci Sonmez *et al.* (2025) ^[7] demonstrate that instructional leadership and teacher leadership play a role in supporting teachers' professional learning. In the Indonesian context, Amzat *et al.* (2022) ^[1] also found that instructional and distributed leadership are related to teachers' professional development. Thus, the quality of education can be understood as the result of the interaction between school leadership, teachers' professional development, and the quality of the learning process.

3. Leadership Under Resource Constraints in Rural Schools

The school context is a critical factor in understanding leadership effectiveness. Rural schools often face limitations in facilities, access to professional development, internet connectivity, digital capacity, and financial resources. Under

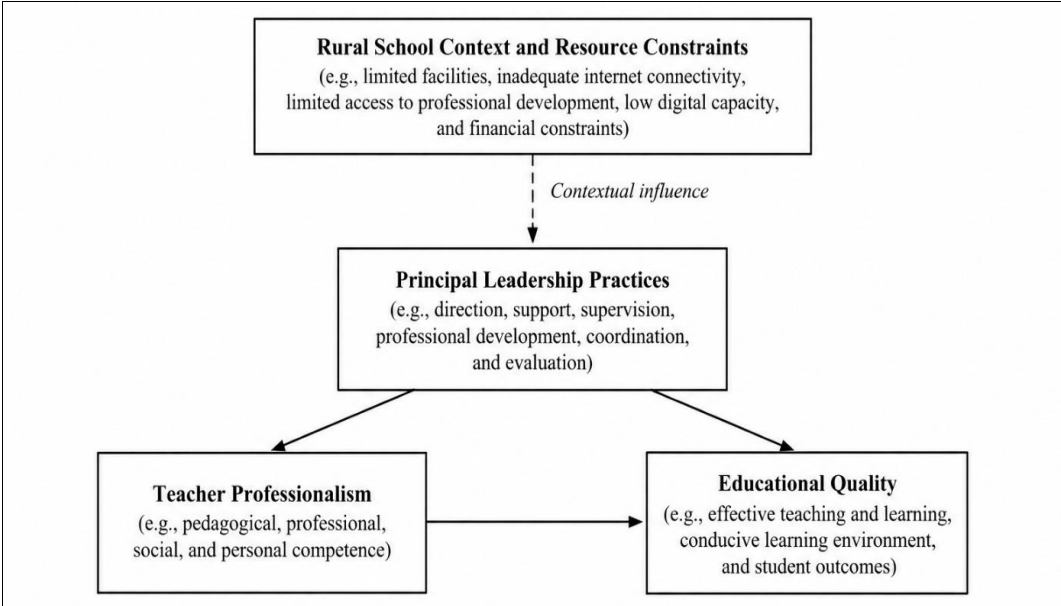
these conditions, principals are required to adapt their leadership practices to the available resources. Kulophas and Hallinger (2024) ^[12] demonstrate that learning-centered leadership must be understood contextually, particularly in rural schools. Nawab and Quraishi (2025) ^[17] also emphasize the importance of principals' support for teachers' professional development in rural settings with limited resources.

In the Indonesian context, Rahman (2022) ^[18] shows that school conditions can either support or limit teachers' professional learning, while Revina *et al.* (2023) ^[20] highlight sustainability challenges in teacher professional development reforms. Resource constraints are also linked to schools' digital transformation. Reis-Andersson (2024) ^[19] emphasizes the importance of leadership in guiding school digitization, while Chiu *et al.* (2024) and Claro *et al.* (2024) ^[3, 4] indicate that teachers' digital competencies are becoming increasingly important in professional development. Therefore, leadership in rural schools must be understood as an adaptive process that manages resource constraints while maintaining the quality of learning.

4. Conceptual Synthesis

Based on this literature, this study views the rural school context and resource constraints as contextual conditions that shape the exercise of principal leadership. Leadership practices include setting direction, supporting teachers, academic supervision, facilitating professional development, coordination, and monitoring and evaluation. Conceptually, these practices are linked to strengthening teacher professionalism and improving the quality of education (Hallinger, 2011; Leithwood *et al.*, 2020; Hendawy Al-Mahdy *et al.*, 2024) ^[10, 12, 15].

The conceptual framework of this study identifies three main analytical relationships: principal leadership practices–teacher professionalism, principal leadership practices–educational quality, and teacher professionalism–educational quality. Meanwhile, resource constraints are positioned as a condition that frames the entire process, rather than as a causal relationship tested statistically. This framework serves as an analytical lens to understand how leadership practices are implemented and how they relate to teacher professionalism and educational quality in the context of rural schools.



Source: Authors' conceptualization based on Hallinger (2011), Leithwood *et al.* (2020), Hargreaves and Fullan (2012), Rahman (2022) ^[10, 11, 15, 18], and Kulophas and Hallinger (2024) ^[12].

Fig 1: Conceptual Framework of Principal Leadership and Educational Quality

Methodology

1. Research Design and Location

This study employs a descriptive qualitative approach using a case study design. This approach was chosen to gain an in-depth understanding of how principals' leadership practices are implemented to support teacher professionalism and educational quality in the context of rural schools. Qualitative research allows researchers to explore meanings, processes, experiences, and practices that emerge within a specific social environment (Creswell, 2016) ^[5]. The focus of the analysis is directed toward the leadership practices of the principal, teacher professionalism, the quality of education, and the contextual conditions that influence the implementation of leadership.

The study was conducted at SMPN 1 Muara Jawaq, Mook Manaar Bulatn Subdistrict, West Kutai Regency, East

Kalimantan, during the 2025–2026 academic year. This location was chosen because it aligns with the study's focus on school leadership, teacher professionalism, and educational quality within the context of a school located in a rural area. The scope of the study is limited to the school's internal dynamics and is not intended to produce broad generalizations beyond the context of the school under study.

2. Informants and Sampling Techniques

Research informants were selected using purposive sampling, which involves the deliberate selection of informants based on their level of involvement, experience, and knowledge regarding the principal's leadership practices, the learning process, and school management. Selection criteria included direct involvement in school

activities, an understanding of the principal's leadership practices, involvement in the learning process or school

administration, and a willingness to provide information openly.

Table 1. Participants, Codes, and Data Contributions

Participant Group	Code	Number	Selection Criteria	Main Data Contribution
Principal	P1	1	Direct responsibility for school leadership and management	Leadership practices, supervision, school programs, teacher development
Teachers	T1–T8	8	Subject teachers with at least three years of teaching experience	Professionalism, teaching practices, leadership support, professional development
Administrative Staff	A1–A2	2	Direct involvement in school administration and support services	School coordination, administrative support, organizational practices
Total		11		

Source: Authors' compilation based on field data, 2026.

The use of multiple groups of informants allowed the study to gain different perspectives on the same phenomenon. Information from each informant was then compared to identify similarities, differences, and patterns of experience related to leadership, teacher professionalism, and educational quality. The informant codes shown in Table 1 were used consistently in the presentation of interview excerpts in the results section to maintain the confidentiality of identities while facilitating the tracing of data sources.

3. Data Collection

Data were collected through in-depth interviews, direct observation, and documentation. Interviews were conducted with school principals, teachers, and educational staff to gather information regarding leadership practices, teacher professional development, academic supervision, motivation, coordination, and efforts to improve the quality of education. Observations focused on the leadership activities of school principals, coordination among school community members, teachers' lesson preparation, the learning process, and the school environment.

Documentation was used as a supporting data source to corroborate the information obtained from interviews and observations. The documents analyzed included school work plans, teacher and student data, supervision records, and documentation of school activities. The use of multiple data collection techniques allowed the researcher to compare the information provided by informants with observed practices and available documentary evidence.

4. Data Analysis and Validity of Findings

Data analysis followed the interactive model proposed by Miles, Huberman, and Saldaña (2014) ^[16], which encompasses data collection, data condensation, data presentation, and the drawing and verification of conclusions. During the condensation stage, data from interviews, observations, and documentation were selected, focused, coded, grouped into categories, and developed into themes relevant to the research focus. The condensed data were then presented in the form of descriptive narratives and organized data presentations to aid the interpretation process.

Data interpretation focused on patterns related to school principals' leadership practices, teacher professionalism, educational quality, and contextual limitations of the schools. Conclusions were developed gradually and re-verified against field data. The validity of the findings was strengthened through triangulation, by comparing

information obtained through interviews, observations, and documentation. This process was used to ensure that the resulting interpretations were consistently supported by various data sources.

Results

1. School Context and Resource Constraints

Research findings indicate that educational activities at SMPN 1 Muara Jawaq take place under conditions of limited resources. The school has one science laboratory, lacks a computer lab, has a limited library collection, and suffers from an unstable internet connection. These conditions limit the use of educational technology as well as teachers' access to digital learning resources. Limitations were also identified in terms of budget, access to training, staffing levels, and teachers' workloads. Budgetary support has been directed toward learning needs but has not yet been sufficient to meet *all* of the school's requirements. Limited staffing means that some teachers must perform additional duties beyond their primary teaching responsibilities.

Findings from observations and interviews also indicate that the use of technology-based learning media is not yet optimal, access to training remains limited, and the digital administrative system has not been fully developed. These conditions form the operational context for the exercise of leadership and the professional development of teachers at the school.

2. Principal Leadership Practices

Principal leadership practices are evident in the implementation of educational policies, program planning, task allocation, guidance, coordination, motivation, supervision, and evaluation. Educational policies are tailored to the school's conditions and disseminated through meetings and briefings for teachers and educational staff. Decision-making takes into account regulations, school needs, the results of deliberations, and the interests of students. Planning for quality improvement programs is carried out through school meetings, evaluations of previous programs, and the identification of needs. Teachers are involved primarily in planning learning activities and student programs. The assignment of tasks is based on the school's needs, competencies, areas of expertise, and each teacher's workload, although staffing shortages result in some teachers being assigned additional duties.

Regarding instruction, the principal provides guidance on instructional materials, teaching discipline, teaching methods, classroom management, and assessment of

learning outcomes. Coordination takes place through faculty meetings, direct communication, written task assignments, and discussions among school community members. Interview results indicate that this guidance helps improve teachers' readiness to conduct lessons, while documentation of information sharing still needs to be strengthened.

3. Teacher Professionalism

The research findings indicate that teacher professionalism is reflected in teaching readiness, discipline, professional responsibility, the development of instructional materials, and participation in professional development activities. The principal supports professional development through training, subject-specific teacher working groups (MGMP), workshops, internal discussions, and guidance on the development of instructional materials. However, opportunities to participate in professional development activities are not yet equitable and have not been fully sustained over time.

Academic supervision is conducted through the review of instructional materials, classroom observations, and the evaluation of learning outcomes. Teachers report that supervision helps improve teaching methods, learning administration, and classroom management. Nevertheless, the implementation of supervision is not yet fully scheduled, and follow-up guidance still needs to be strengthened. The most noticeable changes are in teachers' discipline, teaching readiness, sense of responsibility, and involvement in school programs. However, the research findings also indicate that

professional development has not progressed evenly among all teachers.

4. Quality of the Educational Process

The research findings indicate that the quality of the educational process is primarily reflected in teacher preparedness, the regularity of program implementation, instructional administration, coordination among school community members, and the working environment. Observations show that the principal carries out the functions of guidance, coaching, motivation, supervision, and program implementation. At the teacher level, there has been an increase in discipline, involvement in school activities, improvements in instructional administration, and professional responsibility.

In the learning process, several limitations were still identified. The use of learning media is not yet uniform, particularly technology-based media, and learning innovations still need to be strengthened. Learning evaluations also do not yet fully encompass the learning process, student engagement, and the effectiveness of teaching methods. Follow-up supervision to improve learning has also not always been carried out systematically. Thus, the findings regarding quality in this study primarily describe the quality of the learning process and school management. This study did not make optimal use of data on student learning outcomes and academic achievement; therefore, the results were not used to draw conclusions about changes in students' academic achievement.

Overall, the research findings can be summarized into four main themes, as presented in Table 2.

Table 2: Summary of Key Findings

Theme	Main Findings	Key Constraints	Evidence
Resource Constraints	Limited learning facilities, unstable internet access, limited digital infrastructure, and restricted access to professional development	Facilities, budget, connectivity, access to training	Interviews, observations, documents
Principal Leadership Practices	Policy adaptation, planning, task allocation, coordination, motivation, supervision, and evaluation	Limited personnel and organizational resources	Interviews and observation
Teacher Professionalism	Reflected in discipline, teaching readiness, professional responsibility, lesson preparation, and participation in professional development	Unequal access to training, uneven digital competence, and workload	Interviews and observation
Quality of the Educational Process	Reflected in instructional preparation, school coordination, learning administration, and a more orderly school environment	Limited instructional media, technology use, and follow-up supervision	Interviews, observations, documents

Source: Authors' synthesis of interview, observation, and documentary data, 2026.

Discussion

1. Principal Leadership in the Context of Limited Resources

The findings indicate that school principals exercise leadership through policy adjustments, program planning, task allocation, direction, coordination, motivation, supervision, and evaluation under conditions of limited facilities, budget, technology, access to training, and personnel. These conditions suggest that leadership practices in rural schools are contextual, as decisions and priorities must be adapted to the available resource capacity. These findings align with Leithwood *et al.* (2020) and Hallinger (2011) ^[10, 15], who emphasize the importance of setting direction, developing teacher capacity, and

organizational context in school leadership. These results are also consistent with Kulophas and Hallinger (2024) ^[12] as well as Nawab and Quraishi (2025) ^[17], who demonstrate that rural conditions influence how school leaders support teachers' professional learning. In the context of this study, resource constraints prompt school principals to rely more heavily on internal mechanisms such as meetings, direct communication, task delegation, supervision, and teacher discussions.

Consequently, strengthening leadership in rural schools must include the ability to set priorities, optimize internal resources, and tailor programs to local needs. Thus, leadership is not only about administrative functions but

also about the ability to manage constraints in a context-specific manner.

2. Principal Leadership and Teacher Professionalism

The findings indicate that school principals support teacher professionalism through instructional guidance, motivation, academic supervision, training, subject-based teacher working groups (MGMP), workshops, and the development of instructional materials. The most noticeable improvements were in discipline, teaching readiness, professional responsibility, and the completeness of instructional materials, although these improvements were not yet uniform across all teachers.

These findings align with those of Al-Mahdy *et al.* (2024), Huang *et al.* (2023), and Dorukbaşı and Cansoy (2024) ^[8, 12, 13], which demonstrate the relationship between school leadership and teachers' professional learning. In the Indonesian context, Amzat *et al.* (2022) ^[1] also emphasize the importance of instructional leadership in supporting teachers' professional development. However, the results of this study indicate that such support has not yet been fully institutionalized because training opportunities remain uneven, supervision is not fully scheduled, and follow-up guidance still needs to be strengthened.

Consequently, teachers' professional development needs to shift from incidental activities toward a more planned and sustainable system. Needs assessment, supervision with follow-up, internal subject-matter teacher communities (MGMP), and collegial learning can be strengthened as school-based professional development strategies.

3. Teacher Professionalism and the Quality of the Educational Process

Findings indicate that teacher professionalism is reflected in teaching readiness, discipline, responsibility, and the preparation of instructional materials, while the quality of the educational process is evident in the regularity of instruction, administration, coordination, and a conducive work environment. This suggests that the quality of teachers' professional practices is closely linked to the quality of the educational process taking place in schools.

These findings align with those of Hargreaves and Fullan (2012), Darling-Hammond *et al.* (2017), and Glickman *et al.* (2018) ^[6, 9, 11], who emphasize the importance of professional learning, collaboration, supervision, and competency development in strengthening the quality of teaching. However, the results of this study also indicate that aspects of pedagogical innovation and the use of technology remain weaker compared to aspects of discipline and administration. This situation is linked to limitations in digital facilities, internet connectivity, and teachers' technological proficiency.

Consequently, improving the quality of the educational process cannot be achieved solely through strengthening discipline and the administration of learning. Teachers' professional development must also be directed toward pedagogical innovation, digital competencies, reflective practice, and the use of evaluation results to improve teaching practices.

4. Resource Limitations as a Contextual Condition of Leadership

The main findings of this study indicate that limitations in facilities, budget, connectivity, access to training, personnel,

and technological capabilities coexist in the exercise of leadership. These limitations are related to program planning, task distribution, supervision, teacher professional development, and the implementation of instruction.

These findings complement those of Rahman (2022) and Revina *et al.* (2023) ^[18, 20], which highlight the importance of school conditions and the sustainability of teacher professional development in Indonesia, as well as Kulophas and Hallinger (2024) and Nawab and Quraishi (2025) ^[12, 17], who emphasize the importance of the rural context. In this study, when access to external resources is limited, school principals tend to rely on internal mechanisms such as coordination, supervision, teacher discussions, and school-based professional development. Thus, resource constraints not only serve as operational barriers but also shape leadership choices and practices.

Theoretically, these findings highlight the importance of considering resource constraints as a contextual condition in understanding the interrelationship between leadership practices, teacher professionalism, and the quality of the educational process. The contribution of this study lies in its explanation of how school principals exercise leadership when various resource constraints occur simultaneously in the context of rural schools in Indonesia. Practically, improving the quality of rural schools requires strengthening leadership capacity in tandem with improvements in access to training, digital facilities, budgetary support, and a sustainable supervision system.

Conclusion

This study shows that the leadership of the principal at SMPN 1 Muara Jawaq is exercised through policy adjustments, program planning, task allocation, guidance, coordination, motivation, supervision, and evaluation under conditions of limited facilities, budget, technology, access to training, and staff. These practices are related to teacher professionalism, as reflected in discipline, teaching readiness, professional responsibility, the development of instructional materials, and involvement in competency development, as well as to the quality of the educational process, evident in the regularity of instruction, administration, coordination, and the school work environment. The main contribution of this study lies in its contextual explanation of how school leadership is exercised when various resource constraints coexist simultaneously in the context of rural Indonesian schools; thus, resource constraints must be understood as conditions that shape leadership choices, priorities, and practices.

In practical terms, these findings imply the need to strengthen principals' capacity to set priorities, optimize internal resources, enhance supervision through follow-up, and develop school-based professional learning all of which must be supported by equitable access to training, digital facilities, and educational resources. However, this study is limited to a single school, a relatively small number of informants, a limited observation period, and the suboptimal use of quantitative data on student learning outcomes and academic achievement; therefore, the findings must be understood contextually. Further research is recommended to involve several rural schools with different resource characteristics, using a longitudinal design or comparative case studies, and integrating qualitative data with teacher performance indicators and learning outcomes to gain a

more comprehensive understanding of school leadership under resource-constrained conditions.

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