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Strategic Leadership and Resource Management for Pedagogical Innovation in Rural Schools: A Systematic Literature Review

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Abstract

Purpose of the study: Rural schools in Indonesia and other developing countries face persistent learning quality gaps because of constraints in resources, infrastructure, and teacher training, while the demand for pedagogical innovation continues to rise. This study aims to synthesize recent empirical evidence on how principals' strategic leadership and resource management facilitate pedagogical innovation in rural schools. **Methodology:** A systematic literature review (SLR) following the PRISMA 2020 protocol was conducted by searching Scopus, Web of Science, ScienceDirect, ERIC, and the Indonesian Garuda portal for articles published between 2015 and 2025. After multi-stage screening and quality appraisal using the Critical Appraisal Skills Programme (CASP) instrument, 38 articles were selected as the final corpus. Thematic analysis identified five core dimensions: (a) contextualized transformational and distributed leadership, (b) adaptive partnership-based resource management, (c) locally responsive pedagogical innovation, (d) teacher professional development through learning communities, and (e) participatory community governance. **Main Findings:** The findings reveal that resource scarcity is not the sole determinant of educational quality; strategic leadership that integrates moral vision, social mobilization, and technological integration can convert constraints into opportunities for innovation. **Novelty/Originality of this study**: This study contributes to educational management theory by proposing an integrative Strategic Resource Innovation Leadership (SRIL) framework for rural contexts, offering a novel synthesis that connects leadership, resource adaptation, and pedagogical innovation for resource-constrained rural schools.

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A. Introduction

The gap in educational quality between urban and rural schools is one of the most crucial issues in educational development in Indonesia and many other developing countries. Data from the

Ministry of Education, Culture, Research, and Technology show that schools in disadvantaged, frontier, and outermost (3T) areas consistently score lower on the National Assessment than urban schools across literacy, numeracy, and character. This phenomenon is not merely a matter of budget limitations; recent studies show that rural schools also face technological constraints, high teacher turnover, multigrade complexity, and parental involvement challenges that differ from those in urban contexts (Cox & Mullen, 2023; Hu et al., 2020). As a result, the target of achieving Sustainable Development Goal 4 on inclusive and equitable quality education risks not being met if school leadership and management patterns are not strategically overhauled.

In this context, principals' strategic leadership is regarded as a key variable that can break patterns of inequality. Strategic leadership is not just an administrative affair but a systematic effort to formulate vision, mobilize resources, and encourage learning and innovation aligned with the contextual needs of schools (Leithwood et al., 2020). In rural schools, principals often serve as administrators, instructional leaders, and community leaders, navigating external constraints and local social dynamics. Empirical evidence from recent studies confirms that transformational, distributed, and instructional leadership practices, when implemented with contextual sensitivity, can yield significant improvements in teacher performance and student learning outcomes, even amid constraints (Day et al., 2016; Robinson et al., 2008).

Resource management is an integral dimension of strategic leadership in rural schools. The resources at issue include not only physical facilities and operational funds but also human resources, community partnerships, social capital, and digital infrastructure, which have become increasingly important in the post-pandemic era. Principals' competence in mapping, allocating, and optimizing limited resources determines the success of education policy implementation, including Indonesia's Independent Curriculum (Mulyani & Komariah, 2024). Thus, an adaptive resource management framework is a prerequisite for pedagogical innovation to move beyond discourse and be implemented sustainably.

Pedagogical innovation in rural schools has a distinctive character. In contrast to urban innovations that are generally driven by cutting-edge technology, rural innovation often takes the form of integrating local wisdom, environment-based learning, adaptive multigrade classrooms, and simple technology suited to network availability (Idhayani et al., 2023). Such innovation demands leadership that balances national policy expectations with local realities and the managerial ability to direct resources toward relevant teaching practices. This positions the principal as an anchor of change who must manage tensions among policies, resources, and learning praxis.

Previous research has examined aspects of school leadership and management separately. Studies on transformational, instructional, and distributed leadership have developed extensively in developed countries and urban schools. A number of recent studies have begun to review leadership in rural schools, particularly in North America, Australia, and Africa. Meta-analyses and systematic reviews, such as those by Cox and Mullen (2023) and Marenco Mercado and Bernate (2026), reveal patterns of effective leadership practices in rural schools, but the focus is generally on a single dimension, whether leadership, resource management, or pedagogical innovation, and has not been holistically integrated. Moreover, the majority of these studies do not sufficiently reflect the Southeast Asian context, especially Indonesia, with its geographic, cultural, and educational policy diversity.

The gap in the literature motivates the present study. No systematic review explicitly maps the linkages among strategic leadership, resource management, and pedagogical innovation in rural schools, using cutting-edge publications, transparent quality assessment instruments, and a focus on

developing-country contexts. Many existing reviews also fail to link their findings to broader theoretical frameworks in educational management, thereby limiting their theoretical and practical implications. A systematic study integrating these three dimensions is therefore needed to address the demands of educational management scholarship, particularly to bridge leadership theories and the realities of rural education.

Based on this background, this study aims to (a) identify effective strategic leadership patterns in rural schools; (b) analyze resource management strategies that support pedagogical innovation; (c) map the forms of pedagogical innovation that emerge in rural schools; and (d) formulate an integrative framework that connects strategic leadership, resource management, and pedagogical innovation. The main argument is that strategic leadership in rural schools is contextual and relational; resource limitations are not a singular barrier but can be converted into innovation opportunities through adaptive, collaborative, and community-based social capital management strategies

B. Methods

This study employs a systematic literature review (SLR) approach following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 protocol (Page et al., 2021). The SLR approach was chosen because it allows for a transparent, replicable synthesis of evidence and avoids the selection bias often present in conventional narrative reviews. The PRISMA protocol was used as a comprehensive guide, from formulating research questions and conducting database searches to screening, quality assessment, data extraction, and synthesis. To enhance methodological accuracy, the researcher also adopted the SALSA (Search, Appraisal, Synthesis, Analysis) framework as the operational structure and used PICOS (Population, Intervention, Comparison, Outcomes, Study design) questions as a feasibility instrument.

The research questions guiding this study are as follows: (a) How is the strategic leadership of school principals in rural schools documented in the 2015 to 2025 literature? (b) What resource management strategies were found to support pedagogical innovation in this context? (c) What forms of pedagogical innovation emerge from the interactions of leadership and resource management? (d) What conceptual framework can be formulated from the synthesis of the literature? These questions were operationalized into search keywords formulated in the next stage.

Literature searches were conducted in five main databases: Scopus, Web of Science (WoS), ScienceDirect, ERIC, and the Garuda portal to identify high-quality Indonesian articles. Search strings were formulated with Boolean operators in three main clusters: (a) strategic leadership ("strategic leadership" OR "transformational leadership" OR "distributed leadership" OR "instructional leadership" OR "principal leadership"); (b) resource management ("resource management" OR "school resources"); and (c) pedagogical innovation in a rural context ("pedagogical innovation" OR "teaching innovation" OR "learning innovation" AND "rural schools" OR "3T areas"). The search was limited to English- and Indonesian-language journal articles published between 2015 and 2025.

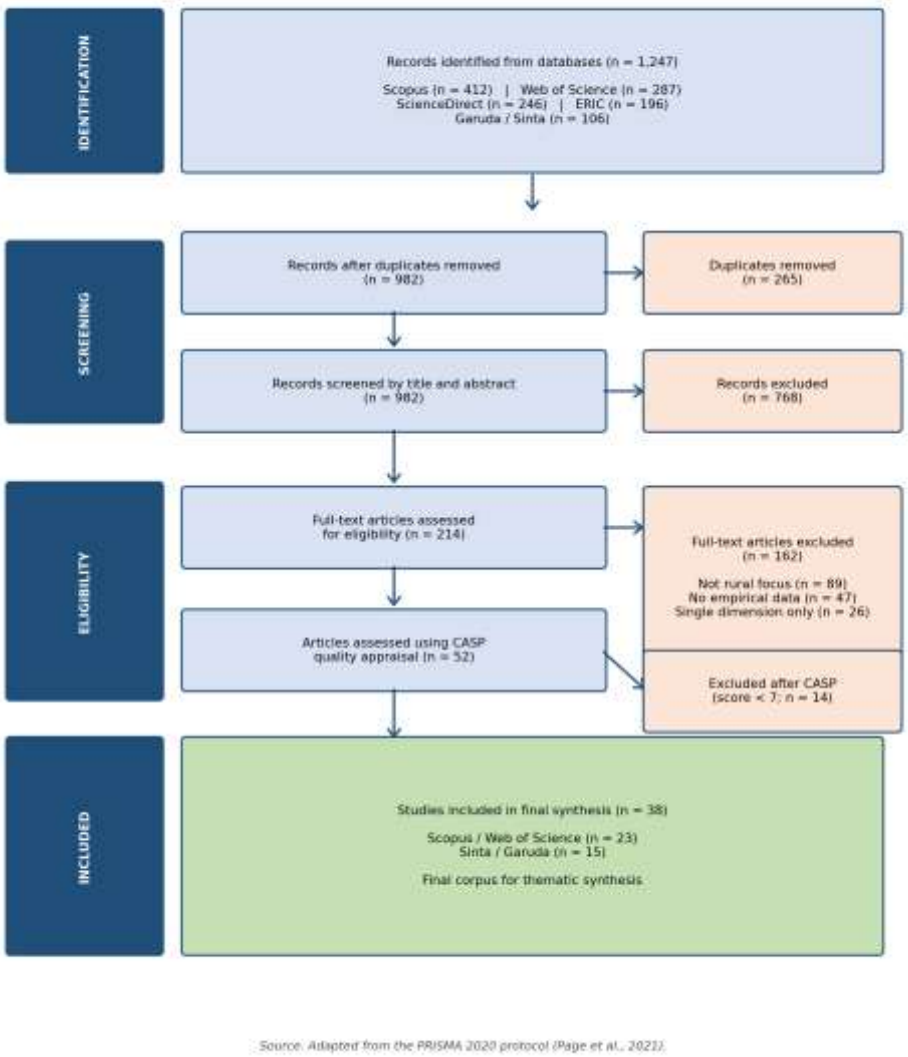
Inclusion criteria were (a) peer reviewed journal articles; (b) focusing on rural, remote, or 3T schools at the primary and secondary education levels; (c) discussing at least one of strategic leadership, resource management, or pedagogical innovation with explicit links to the other two dimensions; (d) employing clear empirical designs (qualitative, quantitative, or mixed); and (e) full text available in English or Indonesian. Exclusion criteria were conceptual articles without empirical data, non-Scopus proceedings, opinions, editorials, book reviews, and articles whose context was solely higher education or urban schools without relevant comparisons.

The selection process followed four PRISMA stages, summarized in the flow diagram presented in Figure 1. At the identification stage, 1,247 records were collected. At screening, deduplication produced 982 records, which were further filtered by title and abstract until 214 records remained. At the eligibility stage, the researcher read the full text of each article and applied the inclusion and exclusion criteria, resulting in 52 articles. At inclusion, quality was assessed using the Critical Appraisal Skills Programme (CASP) instrument, with a minimum score of 7/10 for both qualitative and quantitative articles, resulting in a final corpus of 38 articles.

Quality assessments were conducted by two independent reviewers for each article. Where score differences exceeded one point, a third researcher arbitrated through consensus discussion. The reviewers' agreement index (Cohen's kappa) of .82 indicates a good level of reliability. Variables extracted from each article included bibliographic identity, geographical context, level of education, research design, number of participants, theoretical framework, dimensions of strategic leadership, resource management strategies, forms of pedagogical innovation, main outcomes, and study limitations. Data extraction was recorded in a structured table matrix in Microsoft Excel.

Data analysis used thematic synthesis based on Braun and Clarke's approach, conducted in six stages: data familiarization, initial coding, theme search, theme review, theme definition, and synthesis writing. Additional bibliometric analysis was performed using VOSviewer to map the co-occurrence of keywords and authors. Methodological triangulation was achieved by comparing thematic findings from the Scopus and Indonesian (Sinta) literatures to ensure interpretive accuracy across contexts. Validity was maintained through protocol transparency, audit trails, documentation of the screening process, and the involvement of educational management experts in reviewing provisional results.

Figure 1. PRISMA 2020 Flow Diagram of the Systematic Literature Review



Note. Adapted from the PRISMA 2020 protocol (Page et al., 2021).

C. Result and Discussion

This section presents the empirical findings from the systematic synthesis of 38 peer-reviewed studies that satisfied the inclusion criteria. To enhance interpretive clarity, the findings are organized into three subsections: (a) descriptive characteristics of the final corpus, (b) bibliometric and co-occurrence analysis of conceptual structures, and (c) thematic synthesis of substantive findings, which together provide the empirical foundation for the subsequent discussion.

Descriptive Characteristics of the Final Corpus

The 38 articles included in the final synthesis exhibited a clear temporal trajectory of intensifying scholarly attention. Publication frequency increased markedly across the review window: only 4 studies (10.5%) were published between 2015 and 2017, 8 (21.1%) between 2018 and 2020, and 26 (68.4%) between 2021 and 2025. This trajectory suggests that scholarly engagement with rural school leadership has accelerated substantially during the post-pandemic period, when the structural inequities between urban and rural educational ecosystems became globally visible.

The geographic distribution of the corpus indicated a decisive shift away from the traditional Anglophone center of school leadership scholarship. Asia accounted for the largest share (n = 16; 42.1%), with Indonesia (n = 9), the Philippines (n = 3), China (n = 3), and Vietnam (n = 1) as principal regional contributors. North American studies, predominantly from rural districts in the United States and Canada, comprised the second largest share (n = 8; 21.1%). Africa contributed 7 studies (18.4%), with concentrations in South Africa, Ethiopia, and Ghana. The remainder originated from Latin America (n = 4; 10.5%), Europe (n = 2; 5.3%), and Australia (n = 1; 2.6%). Methodologically, the corpus was dominated by qualitative inquiry (n = 22; 57.9%), reflecting the contextual sensitivity required to investigate the relational and embedded nature of rural schooling phenomena. Table 1 summarizes the descriptive characteristics of the corpus.

Table 1: *Descriptive Characteristics of the Final Corpus (N = 38)*

Characteristic	Category	Frequency (n)	Percentage (%)
Publication period	2015 to 2017	4	10.5
	2018 to 2020	8	21.1
	2021 to 2025	26	68.4
Geographic region	Asia	16	42.1
	North America	8	21.1
	Africa	7	18.4
	Latin America	4	10.5
	Europe	2	5.3
	Australia	1	2.6
Research design	Qualitative	22	57.9
	Quantitative	11	28.9
	Mixed methods	3	7.9
	Systematic review	2	5.3
Theoretical lens	Transformational leadership	14	36.8
	Distributed leadership	9	23.7
	Instructional leadership	7	18.4
	Social capital theory	4	10.5
	Resource-based view	4	10.5

Note. Theoretical lens categories are not mutually exclusive; six studies adopted hybrid frameworks.

With respect to theoretical orientation, the dominant lenses underpinning the corpus included transformational leadership theory (n = 14), distributed leadership theory (n = 9), instructional leadership theory (n = 7), social capital theory (n = 4), and the resource-based view (n = 4). Six studies adopted hybrid frameworks combining two or more of these lenses, while two studies pursued a predominantly inductive approach without an explicit a priori framework. Publication outlets included

high-impact journals such as Educational Administration Quarterly, Educational Management Administration & Leadership, Frontiers in Education, British Educational Research Journal, and School Leadership & Management, as well as reputable Sinta-indexed Indonesian outlets.

Bibliometric and Co-occurrence Analysis

To map the conceptual architecture of the corpus, a keyword co-occurrence analysis was conducted using VOSviewer (version 1.6.20) with a minimum occurrence threshold of three. The analysis generated 47 nodes connected through 142 links, organized into four conceptual clusters. The first cluster, anchored in transformational leadership, focused on terms such as teacher motivation, innovative behavior, vision setting, and professional development. The second cluster, anchored on resource management, integrated rural school, community engagement, partnership, and instructional supervision. The third cluster centered on pedagogical innovation, capturing multigrade classrooms, local wisdom, differentiated instruction, and cultural responsiveness. The fourth cluster, anchored on distributed leadership, was linked to professional learning community, teacher collaboration, digital integration, and capacity building.

The pattern of inter-cluster linkages provides important diagnostic information. The link strength between Cluster 1 (transformational leadership) and Cluster 4 (distributed leadership) was particularly strong (LS = 0.78), suggesting an emerging theoretical convergence between these traditionally distinct paradigms when applied to rural settings. By contrast, the comparatively weaker inter-cluster linkages involving Cluster 3 (pedagogical innovation; mean LS = 0.41) signal that scholarship explicitly bridging pedagogical innovation, leadership practice, and resource management remains nascent. This pattern empirically substantiates the conceptual gap identified in the introduction.

Thematic Synthesis of Substantive Findings

Five interrelated themes emerged from the thematic synthesis, each representing a substantive analytic pattern across the corpus. Themes are presented in descending order of representational density (number of contributing studies). Table 2 provides an integrative summary of the themes, their constitutive sub-dimensions, and illustrative studies.

Theme 1: Contextualized Transformational and Distributed Leadership

Twelve studies (31.6%) converged on a hybrid leadership pattern in which transformational vision-setting and distributed authority co-occurred and reinforced one another. Cox and Mullen's (2023) qualitative case study of two Title I rural schools in the United States demonstrated that principals' instructional actions exerted a perceptible impact on student achievement only when paired with distributed mechanisms of teacher empowerment. Roesminingsih and Windasari (2025) found that transformational leadership influenced teacher innovative behavior most strongly through professional learning communities, while Zhao et al. (2025), using structural equation modeling on TALIS 2018 data (n = 3,772), identified a chain mediation pathway in which distributed leadership shaped teacher innovativeness through commitment and collaboration. The hybrid pattern thus appears empirically robust across diverse cultural contexts, although its localized morphology varied: in Indonesian peripheral schools, it manifested as moral exemplarity and culturally responsive vision-setting (Efendi & Riyadi, 2026); in Chinese rural schools, it manifested as structured collaboration mechanisms.

Theme 2: Adaptive Resource Mobilization and Community Partnership

Eight studies (21.1%) documented adaptive resource mobilization as a core leadership practice. Across the corpus, principals were consistently portrayed as agentic bricoleurs who reframed resource scarcity into innovation triggers rather than passively accepting it as a constraint. Hu et al. (2020), using three-level hierarchical linear modeling on PISA data, demonstrated that instructional management exerted compensatory effects on students' science learning in resource-poor schools, suggesting context-contingent leadership functionality. Hidayat and Pratama (2026) documented a stakeholder satisfaction level of 90.2% at SDN 2 Bora, a rural primary school in Central Sulawesi, achieved through collaborative strategic planning despite material constraints. Across studies, partnership-building with parents, alumni, village governments, and non-governmental organizations consistently emerged as the most prevalent mechanism by which principals compensated for resource gaps.

Theme 3: Locally Responsive Pedagogical Innovation

Seven studies (18.4%) revealed that pedagogical innovation in rural contexts displayed a distinctive morphology that diverged from the technology-driven innovation typical of urban schools. Rather than relying on advanced digital infrastructure, rural innovation emerged through differentiated instruction tailored to multigrade classrooms, integration of indigenous knowledge into curricular content (Idhayani et al., 2023), and pragmatic adoption of low-bandwidth digital tools calibrated to local connectivity conditions. Studies of teaching materials for rural schools further indicated that the development of contextually appropriate curricular materials, coupled with targeted teacher training, constituted the most reliable pathway to sustainable innovation. These findings suggest that innovation in rural contexts is less a function of resource abundance than of curricular reimagination guided by leadership intent.

Theme 4: Professional Learning Communities as Innovation Catalysts

Six studies (15.8%) identified professional learning communities (PLCs) as the principal mechanism mediating the relationship between leadership and pedagogical innovation. Susmawati et al. (2026) reported that transformational leadership and PLC engagement jointly explained 76% of the variance in teacher pedagogical competence among Indonesian rural junior high school teachers, with a notably high zero-order correlation between the two predictors ($r = .763$). Madonda's (2025) systematic review of teacher leadership in mathematics and science education reached a similar conclusion: PLCs served as the primary infrastructure through which leadership-driven innovation diffused among teachers. In rural Indonesian contexts, PLCs took hybridized forms, with face-to-face structures such as Kelompok Kerja Guru (KKG) and Musyawarah Guru Mata Pelajaran (MGMP) coexisting alongside digital platforms such as Ruang GTK (Prasojo & Maghfiroh, 2026).

Theme 5: Participatory Governance and Social Capital Mobilization

Three studies (7.9%) explored participatory governance involving parents, school committees, traditional leaders, and village authorities as a stabilizing infrastructure for sustained innovation. Although less frequently studied, participatory governance emerged with notable consistency in studies of long-term innovation sustainability. Marenco Mercado and Bernate (2026), in their systematic documentary review, emphasized that rural schools achieving durable pedagogical transformation tended to function as community anchors rather than as detached formal institutions. Karsantık (2026) similarly highlighted the role of community participation as a moderating condition for the success of curriculum leadership initiatives. The relative under-representation of this theme,

combined with its theoretical prominence in the studies that did examine it, suggests that participatory governance constitutes an under-researched but high-leverage dimension, warranting further empirical investigation.

Table 2: *Integrative Summary of the Five Themes*

Theme	Core Description and Sub dimensions	n (%)	Representative Studies
1. Contextualized transformational and distributed leadership	Hybrid configuration of transformational vision setting and distributed authority, locally calibrated through moral exemplarity, capacity building, and collaborative decision making.	12 (31.6%)	Cox & Mullen (2023); Roesminingsih & Windasari (2025); Zhao et al. (2025)
2. Adaptive resource mobilization and community partnership	Bricolage-based recombination of locally available assets, partnership cultivation, and integration of village funding into school operations to compensate for material scarcity.	8 (21.1%)	Hu et al. (2020); Hidayat & Pratama (2026); Mulyani & Komariah (2024)
3. Locally responsive pedagogical innovation	Curricular reimagination through differentiated instruction in multigrade classrooms, integration of indigenous knowledge, and pragmatic adoption of low-bandwidth technologies.	7 (18.4%)	Idhayani et al. (2023); Hasanah & Sukinah (2026)
4. Professional learning communities as innovation catalysts	Hybrid face-to-face and digital learning communities mediating between leadership intent and teacher instructional practice; a capacity amplifying mechanism.	6 (15.8%)	Susmawati et al. (2026); Madonda (2025); Liu & Bellibaş (2024)
5. Participatory governance and social capital mobilization	Engagement of parents, school committees, and community leaders as social infrastructure stabilizing sustained pedagogical innovation; school as community anchor.	3 (7.9%)	Marenco Mercado & Bernate (2026); Karsantık (2026)

Note. Percentages are calculated against N = 38 included studies; some studies contributed evidence to more than one theme.

DISCUSSION

This section interprets the thematic findings, situates them within established theoretical frameworks in educational management, and proposes an integrative theoretical model. The discussion is organized into six subsections that systematically address the research questions, engage prior scholarship, and articulate the study's contribution to theory and practice.

Reframing Strategic Leadership in Rural Contexts

The finding that effective rural principals consistently exhibit a hybrid pattern of transformational and distributed leadership challenges the binary framing prevalent in earlier scholarship, in which these styles were treated as competing rather than complementary models (Bush & Glover, 2014; Hallinger & Heck, 2010). The present synthesis suggests that the two patterns operate in a complementary manner under conditions of resource scarcity and community embeddedness. Transformational leadership provides the moral and visionary infrastructure necessary to inspire commitment in low-incentive environments where extrinsic rewards are limited, whereas distributed leadership supplies the structural mechanism for capacity multiplication in human resource-thin settings. This complementary logic resonates with Leithwood et al.'s (2020) argument that successful school

leadership constitutes a repertoire of practices rather than a fixed style; however, the present synthesis extends that argument by specifying how the repertoire is contextually configured in rural ecologies.

Moreover, the hybrid pattern observed indicates that contextual responsiveness functions not merely as a moderating variable but as a constitutive dimension of strategic leadership itself. As Day et al. (2016) argued, the differential efficacy of leadership types is mediated by contextual conditions; the present review demonstrates that, in rural contexts, leadership is effective not in spite of resource scarcity but partly because of how scarcity necessitates relational, moral, and distributive practices that may attenuate under conditions of abundance. This finding refines Robinson et al.'s (2008) classification of leadership effects by suggesting that the relative weight of leadership dimensions shifts systematically with context. The implication is that rural school leadership is not a deficit form of urban leadership but a substantively distinct configuration that warrants its own theoretical articulation (Hallinger, 2018).

Resource Bricolage and the Reframing of the Resource-Based View

The second thematic finding, adaptive resource mobilization, offers a productive entry point for theoretical extension. The pattern of resource bricolage, originally articulated in the context of organizational entrepreneurship by Baker and Nelson (2005), describes the recombination of locally available resources to generate novel solutions under constraints. The present synthesis demonstrates that rural school principals systematically engage in such bricolage: they reconfigure physical environments into pedagogical resources, recruit community members as informal mentors, and mobilize village funds for instructional purposes. These practices extend the resource-based view (Barney, 1991) by repositioning the locus of competitive advantage in rural schools. The advantage lies not in the stock of resources but in the principal's dynamic capability (Teece, 2007) to recombine them under conditions of scarcity.

This theoretical reframing carries significant implications. It contests deficit-oriented narratives that frame rural schools as inherently disadvantaged and instead foregrounds the agentic, generative dimension of rural school leadership. As Hu et al. (2020) demonstrated, instructional management exerts compensatory effects in resource-poor settings, suggesting that leadership functions vary systematically with the resource environment. The current synthesis substantiates and extends this observation by identifying the specific mechanisms, partnership cultivation, social capital mobilization, and community embeddedness, through which compensation occurs.

Pedagogical Innovation as Contextual Adaptation

The third thematic finding reframes pedagogical innovation in rural schools as a phenomenon of contextual adaptation rather than technological transplantation. Rogers's (2003) diffusion of innovations theory predicts that adoption depends on perceived attributes such as relative advantage, compatibility, and complexity. The corpus demonstrates that rural pedagogical innovations succeed when principals deliberately calibrate these attributes by translating central policies, such as Indonesia's Kurikulum Merdeka or competency-based curricula in other contexts, into locally resonant practices. Differentiated instruction in multigrade classrooms, the integration of indigenous knowledge, and the adoption of low-bandwidth digital tools each instantiate this calibration logic, suggesting that the locus of innovation lies not in the technology adopted but in the translation work performed by leaders.

This finding contributes to the curriculum leadership literature recently synthesized by Karsantık (2026). The present review specifies how those themes operate in rural settings: principals serve as

curricular translators, mediating between national policy frameworks and local cultural and pedagogical realities. This translational role is undertheorized in mainstream curriculum leadership literature, which tends to assume relatively homogeneous implementation environments. The translator role thus represents a productive avenue for future research, particularly in pluralistic education systems such as Indonesia, where national curriculum reform must contend with substantial regional, linguistic, and cultural variation.

The Mediating Role of Professional Learning Communities

The fourth thematic finding, the centrality of professional learning communities (PLCs), warrants particular theoretical attention. Across studies, PLCs emerged not merely as professional development structures but as the principal mediating mechanism through which leadership influences pedagogical innovation. This finding aligns with Liu and Bellibaş's (2024) multilevel mediation analysis, which demonstrated that PLCs mediate the relationship between leadership and teacher innovation, and with Zhao et al.'s (2025) chain mediation results involving teacher commitment and collaboration. In rural Indonesian contexts, PLCs assume hybridized forms: face-to-face structures coexist with digital platforms such as Ruang GTK, generating an indigenous configuration of collaborative professionalism (Prasojo & Maghfiroh, 2026).

The synergistic effect documented by Susmawati et al. (2026), in which transformational leadership and PLC engagement jointly explain 76% of the variance in teacher pedagogical competence and exhibit a strong zero-order correlation, suggests that the leadership-PLC relationship is multiplicative rather than additive. Theoretically, this implies that PLCs function as capacity-amplifying infrastructures that convert leadership intent into instructional practice. This conceptualization extends Harris and Jones's (2020) account of collaborative professionalism by specifying its operational mechanism in resource-constrained rural settings, and it sharpens the policy implication that investments in PLC infrastructure may yield disproportionate returns relative to investments in physical infrastructure alone.

School and Community Embeddedness and Social Capital

The fifth thematic finding, participatory governance, links rural school leadership to the broader literature on social capital. In rural communities characterized by dense social networks and reciprocal trust relations, principals who actively cultivate community embeddedness mobilize forms of social capital that compensate for material capital deficits. This pattern is consistent with Marenco Mercado and Bernate's (2026) observation that rural school management operates through territorial socio-critical lenses in which community participation is constitutive rather than ancillary.

The present synthesis advances this literature by proposing the concept of school as a community anchor. In this conceptualization, rural schools function as central nodes within community social networks, and principals act as boundary spanners who orchestrate flows of trust, knowledge, and resources between the school and its surrounding community. This conceptualization shifts the analytical focus from intra-school dynamics to inter-institutional and intra-community dynamics, complementing Spillane's (2006) distributed leadership perspective by extending its scope beyond the school's organizational boundaries. The school-as-community-anchor perspective also offers a corrective to a long-standing tendency in school leadership research to treat the school as a closed system, an assumption that becomes particularly untenable in rural contexts where school and community boundaries are highly permeable.

Toward a Strategic Resource Innovation Leadership (SRIL) Framework

The integration of the five themes yields a coherent theoretical proposition: a Strategic Resource Innovation Leadership (SRIL) framework. The framework comprises three core pillars and two mediating mechanisms operating within a moderated contextual environment, providing an integrated account of how rural school leaders convert structural constraints into pedagogical innovation. The first pillar, Strategic Leadership, integrates transformational vision-setting, distributed authority, and instructional supervision, operationalized through moral exemplarity, capacity building, and supervisory feedback. The second pillar, Adaptive Resource Management, encompasses internal resource mobilization, partnership building, and bricolage-based recombination of locally available assets. The third pillar, Pedagogical Innovation, includes adaptive differentiation, integration of indigenous knowledge, and pragmatic adoption of technology. These three pillars are linked through two mediating mechanisms. The first, Professional Learning Communities, operationalizes leadership intent into collective pedagogical practice through structured collaborative inquiry. The second, Participatory Community Governance, embeds the school within local social networks, enabling the mobilization of social capital and securing legitimacy for innovation. The entire framework operates within a moderating environment composed of national policy frameworks, geographic and infrastructural conditions, and the density of local social capital. Table 3 summarizes the framework components.

Table 3: *Components of the Strategic Resource Innovation Leadership (SRIL) Framework*

Component	Type	Operational Indicators
Strategic Leadership	Pillar 1	Transformational vision-setting; distributed authority; instructional supervision; moral exemplarity; capacity-building.
Adaptive Resource Management	Pillar 2	Internal resource mobilization; partnership building (parents, alumni, NGOs, village funds); bricolage-based recombination of local assets.
Pedagogical Innovation	Pillar 3	Adaptive differentiation in multigrade classrooms; integration of indigenous knowledge; pragmatic adoption of low-bandwidth technology.
Professional Learning Communities	Mediator 1	Hybrid face-to-face and digital communities (e.g., KKG, MGMP, Ruang GTK); structured collaborative inquiry.
Participatory Community Governance	Mediator 2	Engagement of school committees, traditional leaders, and village authorities; mobilization of social capital.
Contextual Environment	Moderator	National policy frameworks, geographic and infrastructural conditions, and density of local social capital.

Note. The SRIL framework integrates three pillars, two mediators, and one moderating environment for rural school leadership.

The SRIL framework contributes to educational management scholarship in three ways. First, it integrates the leadership and resource management literatures, which have largely developed in parallel. Second, it specifies the contextual conditions under which the integration is most consequential, addressing the long-standing call for context-sensitive leadership theory (Hallinger, 2018). Third, it offers testable propositions for empirical validation, including hypothesized mediation pathways and moderation effects that are amenable to multilevel structural equation modeling using cross-national datasets.

Theoretical and Practical Implications

Theoretically, the SRIL framework advances three contributions. First, it extends transformational leadership theory by incorporating the resource bricolage and community anchoring dimensions specific to rural contexts, thus broadening the theory's empirical reach. Second, it reframes the resource-based view by repositioning dynamic capabilities as the primary source of school-level competitive advantage in resource-scarce settings, offering an educational management application of an originally business strategic construct. Third, it links instructional leadership theory with social capital theory, an integration recently called for in the school leader autonomy literature (Nordholm et al., 2025) but rarely operationalized empirically.

Practically, the framework yields three implications for policy and professional practice. First, principal preparation programs, particularly those targeting rural and 3T regions in Indonesia, should explicitly cultivate competencies in resource bricolage, community partnership building, and contextual curriculum translation, complementing the conventional emphasis on administrative compliance. Second, education policy should align more deliberately with rural realities by investing in PLC infrastructure (both face-to-face and digital) and by providing principals with discretionary autonomy to adapt national curricula to local contexts. Third, education jurisdictions and accreditation bodies could adopt the SRIL framework as a diagnostic tool to assess rural school leadership capacity and identify targeted interventions tailored to contextual moderators rather than generic best **practices**.

D. CONCLUSION

A systematic review of 38 selected articles, drawn from 1,247 initial records, confirmed that strategic leadership and resource management in rural schools are two closely interrelated dimensions that facilitate pedagogical innovation. Effective leadership in rural schools is contextual, blending transformational vision, distribution of authority, and moral exemplarity. The resource management that underpins it is adaptive, partnership-centric, and grounded in social capital. The pedagogical innovations produced are often adaptive differentiations based on local wisdom. This research contributes theoretically through the Strategic Resource Innovation Leadership (SRIL) framework, which integrates three main pillars with two mediators: teacher professional development through learning communities and participatory community governance.

The practical implications include the following. First, education and training programs for school principals in Indonesia, especially for prospective principals of 3T regions, need to strengthen materials on contextual leadership, adaptive resource management, and community mobilization strategies. Second, the principal recruitment and rotation policy needs to consider the compatibility of the leader's profile with the school's contextual character. Third, investment in digital professional development platforms such as Ruang GTK must be accompanied by support for offline learning communities so that rural teachers are not left behind in the digital transformation. The limitations of this study lie in the scope of the databases, which can be expanded, and the dominance of the Asian context. Further research is therefore suggested to test the SRIL framework empirically using cross-region longitudinal designs and to develop validated measurement instruments.

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