



One school, many hands: Implementing a whole-school approach to improve learning quality in rural East Kalimantan, Indonesia

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Abstract

Improving learning quality requires the integrated involvement of all school stakeholders through a Whole-School Approach (WSA). This study analyzes WSA implementation under Decree of the Principal of SDN 010 Bongan No. 339 of 2015, and identifies its supporting and inhibiting factors. Employing a descriptive qualitative approach, data were collected through interviews with the principal, teachers, education personnel, the school committee, parents, and students, supported by observation and documentation, and analyzed using George C. Edward III's implementation model, comprising communication, resources, disposition, and bureaucratic structure. Findings show WSA implementation has proceeded effectively. Communication was clear, open, and consistent through socialization, meetings, supervision, and school media. Resources were supported by teacher and staff competence, learning facilities, a conducive environment, funding, and community participation. Disposition was reflected in the principal's commitment, teacher responsibility, staff support, student participation, and committee and parental involvement. Bureaucratic structure was supported by clear task allocation, procedures, coordination, supervision, and evaluation. Implementation improved student participation, motivation, learning comfort, and academic and non-academic achievement. Supporting factors were leadership, implementer competence, collaborative culture, and multi-stakeholder support, while inhibiting factors included limited funding, specialized-personnel shortage, facility inadequacy, unstable internet access, administrative workload, and uneven parental participation.

Keywords: Whole school approach, policy implementation, george c. Edward iii, learning quality, rural elementary education

Introduction

Improving the quality of basic education constitutes a strategic agenda for human-resource development, particularly in developing countries with diverse geographic and social characteristics such as Indonesia (Hamidah, 2020) ^[11]. Basic education is no longer understood merely as a process of cognitive-knowledge transfer, but as a learning ecosystem encompassing school leadership, organizational culture, stakeholder engagement, student wellbeing, and school-policy continuity (Sembung *et al.*, 2023) ^[22]. Partial, fragmented education reform tends to generate limited, unsustainable impact, particularly in elementary schools situated in rural areas with constrained support capacity.

The Whole-School Approach (WSA) has developed as a conceptual and operational framework positioning the school as a single, interconnected social system (Giri *et al.*, 2025) ^[9]. WSA emphasizes integration among school leadership, classroom learning practice, teacher professional development, school climate, and parent and community participation (Hennessey *et al.*, 2025; Moore *et al.*, 2024) ^[12, 18]. Consistent, high-fidelity WSA implementation contributes significantly to improved school climate, strengthened social-emotional learning, and a more conducive learning environment supporting student academic achievement, although direct academic impact is often non-linear and mediated by non-cognitive factors.

Most empirical evidence on WSA success remains dominated by studies in developed countries with relatively adequate resource support (Khamdit & Worapun, 2024; Kyriakides & Charalambous, 2020; Nordahl *et al.*, 2023) ^[13, 14, 19]. This generates a transferability limitation for applying WSA findings to elementary-school contexts in rural, low-

support-capacity areas situated far from education-policy centers. Challenges including facility limitation, high teacher workload, school-leadership rotation, and weak school-community partnership networks frequently constrain full, sustainable WSA implementation (Giri *et al.*, 2025) ^[9]. This condition demands contextual research that not only tests WSA effectiveness but also describes implementation dynamics and optimization strategy consistent with local school characteristics.

The application of a holistic, integrated education approach is consistent with Indonesia's national education-policy framework. Law No. 20 of 2003 on the National Education System affirms that national education functions to develop capability and shape a dignified national character through the full development of student potential, encompassing spiritual, self-control, personality, intellectual, moral, and skill dimensions necessary for the individual, society, nation, and state. This formulation indicates that education-quality improvement cannot be understood partially, but demands a holistic approach integrating the learning process, school management, and the educational social environment.

The principle of participatory, contextual education management is further reflected in derivative regulation, including Government Regulation No. 57 of 2021 on National Education Standards, which emphasizes education-quality assurance through integration of management, learning-process, educator and education-personnel, and conducive learning-environment standards. Within this context, WSA holds strong relevance as an implementative framework bridging national education policy's normative

objectives with management and learning practice at the education-unit level.

Basic education conditions in East Kalimantan Province, particularly West Kutai Regency, continue to show significant structural challenges. Central Statistics Agency (BPS) data in recent years reveal a persistent education-quality achievement gap between urban and interior areas, whether from the standpoint of access, learning quality, or teacher availability (BPS, 2024). Elementary schools in non-urban districts generally face human-resource limitation, minimal sustained professional support for teachers, and low parental-involvement intensity in formal education. Table 1 presents comparative basic-education indicators between West Kutai Regency and East Kalimantan Province.

Table 1: Basic Education Indicators in West Kutai Regency and East Kalimantan Province (2024)

Indicator	West Kutai Regency	East Kalimantan Province
Mean Years of Schooling	9.01	9.01
Net Enrollment Rate (NER), Elementary	99.02%	-
Gross Enrollment Rate (GER), Elementary	106.96%	-

Source: Badan Pusat Statistik (2024) ^[3].

Table 1 shows that West Kutai Regency's mean years of schooling reaches 9.01 years, aligned with East Kalimantan Province's aggregate average, while net and gross enrollment rates for elementary education stand at 99.02 and 106.96 percent respectively, indicating that most elementary-school-age children are reached by the formal education system. These participation indicators, however, must be understood within a broader quality context, since high participation does not automatically reflect optimal learning-process and outcome quality, reinforcing the need for a holistic, integrated education-management approach such as WSA that positions the school as one interconnected education system in efforts to improve education and learning quality.

SDN 010 Bongan, West Kutai Regency, presents a compelling research site because it has held an internal policy foundation since 2015, Principal's Decree No. 339 of 2015, normatively adopting Whole-School Approach principles in school management. This decree's existence indicates institutional school commitment to a holistic approach in improving education and learning quality. To date, however, no academic study has systematically described how this policy is implemented in daily school practice, how principal and teacher leadership orchestrates the whole-school approach, or how WSA optimization strategy is formulated and executed under the empirical conditions of a rural elementary school.

Research on WSA from various developed countries further underscores that a principal weakness of existing WSA scholarship is the dominance of quantitative evaluative approaches emphasizing outcomes, while implementation-process aspects, school organizational dynamics, and local adaptation strategy remain comparatively underexplored (Giri *et al.*, 2025; Marmoah *et al.*, 2023) ^{[9, [15]]}. Moreover, WSA studies at the elementary-school level rarely connect explicitly among internal school policy, local context, and concrete classroom learning practice, particularly within a

distributed-leadership and school-system-coherence framework.

This study's research gap accordingly lies in the scarcity of contextual studies comprehensively describing and analyzing WSA implementation in rural Indonesian elementary schools, taking internal school policy as the principal instrument. This study is needed not merely to assess whether WSA operates or not, but to understand how WSA is translated into practice, the factors shaping its success, and optimization strategy relevant to SDN 010 Bongan's specific empirical conditions. The study is accordingly expected to contribute theoretically to enriching WSA-implementation scholarship within a developing-country context, alongside practical contribution to policy and practice development for holistic-approach-based elementary education.

Building on this rationale, this study addresses two research problems: how has WSA been implemented under Principal's Decree No. 339 of 2015 in improving learning quality at SDN 010 Bongan, West Kutai Regency, and what factors support and hinder that implementation?

Literature Review

1. Public Policy and the Policy Cycle

Public policy denotes government action addressing public problems through sequential stages, formulation, adoption, implementation, and evaluation, forming a continuous, adaptive cycle responsive to environmental change and community need (Dunn, 2018; Dye, 2002) ^[5, 6]. Within this study's context, the relevant public policy is government education policy, specifically policy forming the basis for education management and quality improvement at the education-unit level. This theoretical policy framework provides the foundation for understanding how policy is translated and implemented in school-level practice, including WSA application as an education- and learning-quality-improvement strategy. Nugroho (2023) ^[20] further affirms that public-policy analysis in the Indonesian context must account for the dynamic interaction among policy formulation, implementation, and political management dimensions, an interaction directly relevant to understanding why a formally established school policy, such as Principal's Decree No. 339 of 2015, may be implemented with varying fidelity depending on local leadership, resource, and stakeholder conditions. Subarsono (2012) ^[29] similarly frames public-policy analysis as encompassing not only the formal content of a policy decision but the broader institutional and administrative environment shaping its execution, a framing echoed by Keban's (2014) ^[28] six strategic dimensions of public administration, encompassing policy, organization, management, ethics, environment, and accountability, several of which, particularly organization and management, map directly onto Edward III's bureaucratic-structure and resources variables examined in this study. Tachjan (2006) ^[30] further affirms that policy implementation constitutes an inherently complex, multi-actor process whose success cannot be assumed from formulation quality alone, a caution directly relevant to this study's evaluative focus on Decree No. 339 of 2015's field-level execution rather than its formal existence.

2. The George C. Edward III Implementation Model

Edward III, as cited in Agustino (2017) ^[1], explains that policy implementation constitutes the stage at which policy is executed by responsible administrative units and

individuals to achieve policy objectives. Edward III identifies four key factors shaping implementation success: communication, resources, disposition or implementer attitude, and bureaucratic structure, factors that interrelate and jointly determine the extent to which policy can be effectively executed in the field. Akib (2012) ^[12] similarly affirms that policy implementation constitutes a critical stage frequently more complex than formulation itself, since it involves numerous actors, interests, and field-level conditions that formulation alone cannot fully anticipate.

Communication constitutes a fundamental implementation factor because it determines the extent to which policy can be accurately understood by implementers. According to Edward III, even a well-formulated policy will prove difficult to implement if information regarding its objective, content, and procedure is not communicated clearly, consistently, and continuously. Policy communication encompasses not only instruction delivery from policymaker to implementer but also feedback transmission from implementer to decision-maker. Within school-level education policy, communication becomes crucial because it involves multiple actors, principals, teachers, education personnel, and other school stakeholders; clarity of communication regarding WSA's objective and implementation mechanism shapes shared understanding and commitment across the entire school community, while inconsistent or ambiguous communication risks generating differing policy interpretation that ultimately constrains implementation effectiveness.

Resources constitute Edward III's second implementation-success factor, encompassing not merely financial aspects but also human resources, information, authority, and supporting facilities and infrastructure. Adequate resource availability enables implementers to execute their duties and responsibilities optimally consistent with policy objectives. Within WSA-based education policy, resource adequacy holds particular importance since this approach demands active involvement from the entire school community and execution of various supporting programs; limitation in teacher numbers, educator competency, or learning facilities can constrain the translation of policy into quality learning practice.

Implementer disposition refers to the attitude, commitment, and acceptance level implementers hold toward the policy being executed. Edward III emphasizes that policy implementers are not always neutral, since they hold particular perceptions, values, and interests shaping how they execute policy. Implementation proceeds effectively where implementers possess strong policy understanding alongside positive attitude and high commitment toward policy objectives. Within WSA implementation at the elementary-school level, implementer disposition is reflected in principal and teacher attitude toward established school policy, with support, openness to change, and willingness to collaborate constituting important disposition indicators, while resistance to change, low motivation, or weak policy ownership can constitute inhibiting factors in school-level education-policy implementation.

Bureaucratic structure concerns the organizational arrangement through which policy is executed, encompassing task division, standard operating procedure, and inter-unit coordination. A supportive bureaucratic structure ensures that policy implementation proceeds systematically and accountably, with clear responsibility

distribution among school actors, functioning organizational communication flow, and effective supervision and evaluation mechanisms supporting continuous WSA implementation improvement.

3. The Whole-School Approach in Comparative Perspective

The Whole-School Approach has attracted growing international scholarly attention as a framework for improving school performance and wellbeing through integrated, system-wide intervention. Giri *et al.* (2025) ^[9] demonstrate, through case-study evidence, that whole-school intervention can meaningfully enhance school performance when leadership, staff, and community stakeholders are coherently aligned around shared implementation goals. Hennessey *et al.* (2025) ^[12] similarly document that a Whole-School Approach to wellbeing, encompassing both pupils and teachers, requires cultivating a holistic school culture rather than isolated wellbeing programming, while Moore *et al.* (2024) ^[18] find that school-leader perspectives on evidence-based-practice implementation are shaped substantially by perceived organizational readiness and available implementation support. Kyriakides and Charalambous (2020) ^[14] further contribute a methodologically rigorous test of whole-school intervention's theoretical framework using multilevel structural equation modeling, confirming that school-level factors meaningfully mediate the relationship between whole-school intervention and student learning outcomes, while Nordahl *et al.* (2023) ^[19] emphasize that system-wide coherence, alignment among a school's various improvement initiatives rather than their sheer number, constitutes a critical determinant of sustained implementation success. Khamdit and Worapun (2024) ^[13], examining WSA within the Thai education system, find that comprehensive WSA implementation can meaningfully optimize education quality when supported by strong leadership and stakeholder collaboration, a finding broadly consistent with the international pattern this study's local Indonesian case is positioned to test and extend.

Notwithstanding this substantial international evidence base, scholars caution that WSA research remains methodologically skewed toward quantitative, outcome-focused evaluation, with implementation-process dynamics comparatively underexplored (Giri *et al.*, 2025; Marmoah *et al.*, 2023) ^[9, 15], a gap this study's qualitative, process-oriented design is specifically positioned to address. Marmoah *et al.* (2023) ^[15], examining Indonesia's Activator School Program, a whole-school-oriented improvement initiative, similarly document persistent implementation challenges including resource constraint and the need for sustained strategic adaptation, findings this study's West Kutai case corroborates and extends within a specifically rural, resource-constrained elementary-school setting.

4. School Governance, Education Bureaucracy, and Community Participation

Effective WSA implementation depends substantially on the quality of school governance and its interface with the broader education bureaucracy. Syifaurrehman *et al.* (2025) ^[25] find that Indonesia's education bureaucracy carries direct implications for school governance quality, with bureaucratic complexity and administrative burden capable of constraining school leaders' capacity to focus on

substantive quality-improvement work rather than compliance-oriented reporting. Sururi *et al.* (2023) ^[24], examining Indonesia's Sekolah Penggerak (Driving School) program, a similarly holistic school-transformation initiative, find that implementation success depends significantly on principal leadership capacity and sustained government mentoring support, a pattern this study's findings regarding SDN 010 Bongan's principal-leadership-dependent WSA implementation closely parallel. Community and parental participation constitutes a further critical WSA success factor: Sumarti *et al.* (2023) ^[23] demonstrate that community participation meaningfully optimizes education-service quality, while Erin *et al.* (2022) ^[8], examining whole-school policy and practice through a symbiotic, multi-stakeholder lens, affirm that sustainable whole-school policy requires establishing genuinely reciprocal relationships among school, family, and community actors rather than one-directional school-to-community communication alone. Denhardt and Denhardt (2020) ^[27], writing from a New Public Service perspective,

argue that public organizations, including schools as public-education institutions, should be oriented toward serving citizens through collaborative, value-driven governance rather than top-down administrative steering, a normative orientation consistent with WSA's emphasis on collaborative, multi-stakeholder school management. Rani *et al.* (2024) ^[31], examining building-approval policy implementation in Pasuruan Regency through the same Edward III framework this study employs, similarly find that implementation success depends on the joint, rather than independent, functioning of communication, resources, disposition, and bureaucratic structure, reinforcing this framework's applicability across substantively distinct Indonesian regional-policy domains, from infrastructure licensing to school-level education policy alike.

5. Prior Research

Table 2 summarizes prior studies most directly relevant to this study's focus on WSA and education-policy implementation.

Table 2. Summary of Prior Studies on Whole-School Approach and Education Policy Implementation

Study	Focus / Location	Key Finding
Giri <i>et al.</i> (2025) ^[9]	Whole-school intervention case study, Nepal	Whole-school intervention meaningfully enhances school performance when leadership, staff, and community are coherently aligned, though implementation-process research remains comparatively scarce
Hennessey <i>et al.</i> (2025) ^[12]	Well Schools WSA wellbeing evaluation	Whole-school wellbeing requires cultivating holistic school culture rather than isolated, siloed wellbeing programming
Marmoah <i>et al.</i> (2023) ^[15]	Activator School Program, Indonesia	Whole-school-oriented improvement initiatives face persistent resource constraints requiring sustained strategic adaptation
Sururi <i>et al.</i> (2023) ^[24]	Sekolah Penggerak program, Indonesia	Holistic school-transformation success depends significantly on principal leadership capacity and sustained government mentoring
Sembung <i>et al.</i> (2023) ^[22]	Inclusive education policy implementation, Indonesian elementary school	Education-policy implementation at the school level is shaped by leadership, resource, and stakeholder-coordination factors similar to those in general policy-implementation literature

Source: Synthesized by the author from the reviewed literature.

These studies collectively affirm that WSA and comparable holistic school-policy implementation depend on leadership quality, resource adequacy, and multi-stakeholder coordination, converging with Edward III's implementation variables while extending them to the specific organizational context of schools. This study extends that literature by examining WSA implementation through a single, internally codified school policy, Principal's Decree No. 339 of 2015, within a rural Indonesian elementary school, a combination of policy-instrument specificity and rural locus not extensively examined in the reviewed comparator studies, which are drawn predominantly from urban, national-program, or international settings.

Research Methods

1. Research Approach

This study employed a descriptive qualitative approach, consistent with Creswell's (2018) ^[4] characterization of qualitative research as oriented toward understanding a

phenomenon holistically within its natural setting, drawing on the perspectives of multiple stakeholders to construct a rich, contextual account of implementation.

2. Research Site

This study was conducted at SDN 010 Bongan, West Kutai Regency, East Kalimantan Province, selected because the school has held an internally codified WSA policy foundation since 2015 through Principal's Decree No. 339 of 2015, rendering it a relevant site for examining sustained, internally driven WSA implementation within a rural elementary-school context.

3. Informants and Data Sources

Informants were selected through purposive sampling, comprising parties possessing knowledge, experience, and direct involvement in WSA implementation. Table 3 summarizes the informant and documentary data sources drawn upon in this study.

Table 3: Profile of Research Informants and Data Sources

Category	Source	Information Sought
Informant	Principal, SDN 010 Bongan	Background of Decree No. 339/2015, WSA objectives, leadership form, communication strategy, task division, and supervision
Informant	Classroom teachers	Understanding of WSA, learning implementation, program involvement, media/method use, and learning-quality change
Informant	Education personnel	Administrative support, school data, document management, and facility support

Informant	School committee	Committee involvement in supporting school policy and facility development
Informant	Parents	Involvement in supporting student learning, school communication, and perception of learning-quality improvement
Informant	Students	Learning experience, changes in learning atmosphere, participation, discipline, and comfort
Document	School records and learning documents	Decree No. 339/2015, school profile, vision-mission, organizational structure, task division, work programs, meeting minutes, supervision and evaluation reports, lesson plans, assessment tools, and grade records

Source: Field data, compiled by the researcher (2026).

4. Data Collection Technique

Data were collected through semi-structured interviews with the informant categories listed in Table 3, direct observation of learning activity, school environment, and stakeholder interaction, and documentation review encompassing the school policy decree, administrative records, and learning-process documentation.

5. Data Analysis Technique

Data were analyzed using the interactive model of Miles, Huberman, and Saldana (2014) ^[16], comprising data condensation, data display, and conclusion drawing and verification, organized around Edward III's four implementation variables and triangulated across interview, observational, and documentary sources following Moleong's (2019) ^[17] qualitative validity criteria.

Results

1. School Profile

SDN 010 Bongan operates within West Kutai Regency, an area characterized by extensive geographic spread and constrained infrastructural support relative to more urbanized districts. Since 2015, the school has held an internal policy foundation, Principal's Decree No. 339 of 2015, formally adopting Whole-School Approach principles across its management and instructional practice.

2. Communication

Field data indicate that WSA-related communication has been conducted clearly, openly, and consistently through multiple channels, including formal socialization sessions, regular staff meetings, classroom supervision visits, and school communication media, including a WhatsApp coordination group linking the principal, teachers, and, in part, parents. This communication cascade has established shared understanding among school stakeholders regarding WSA's objectives, while informants noted that communication reaching parents, particularly those with limited availability owing to work commitments, remains less consistent than internal staff communication, a gap addressed partially through the class parent association (Paguyuban Kelas) mechanism.

3. Resources

Resource support for WSA implementation was found to encompass teacher and education-personnel competence, learning facilities, a conducive school environment, funding, and community participation. Teachers were reported to possess adequate pedagogical competence for implementing active, contextual, and collaborative learning approaches consistent with WSA principles, while education personnel, operating with limited digital administrative support through the Si TIBO application, provide the administrative backbone supporting WSA's broader implementation.

Facility and infrastructure adequacy varied by category: core classroom facilities were generally functional, while specialized facilities, including certain learning-support equipment and stable internet connectivity, remained constrained, a limitation this study's discussion below connects directly to the school's rural, low-support-capacity setting.

4. Disposition

Implementer disposition toward WSA was found to be strongly positive across the school community. The principal's commitment to sustained WSA implementation was evident in continuous supervision, coordination, and community-engagement effort, while teachers demonstrated consistent responsibility in translating WSA principles into active, contextual, and enjoyable learning practice. Education personnel provided sustained administrative support, students demonstrated active participation in both academic and non-academic school activity, and the school committee and parents, notwithstanding the communication-reach limitation noted above, demonstrated meaningful involvement in supporting school facility development and student learning.

5. Bureaucratic Structure

WSA implementation was supported by reasonably clear task allocation, work procedures, coordination mechanisms, supervision, evaluation, and follow-up action, formalized in part through the school's organizational structure and work-program documentation established under Decree No. 339 of 2015. Notwithstanding this structural foundation, the absence of a fully dedicated, comprehensive standard operating procedure specifically governing WSA's communication, resource-management, task-division, and evaluation mechanisms was identified as an area warranting further institutional strengthening, discussed further in Section 6.3 below.

6. Learning-Quality Outcomes

WSA implementation was found to generate several concrete learning-quality outcomes: more active, contextual, varied, and enjoyable learning practice; increased student participation and motivation; a safer, more comfortable learning environment; and improved academic and non-academic student achievement. These outcomes were corroborated across principal, teacher, and student informant accounts, alongside documentary evidence including grade records, attendance data, and extracurricular achievement documentation.

7. Supporting and Inhibiting Factors

Table 4 summarizes the principal factors identified as supporting WSA implementation, while Table 5 summarizes the principal inhibiting factors.

Table 4: Factors Supporting WSA Implementation at SDN 010 Bongan

No.	Supporting Factor	Description
1	Strong principal leadership	Sustained supervisory, coordinating, and community-engagement effort by the principal
2	Effective communication	Clear, open, and consistent communication through socialization, meetings, and school communication media
3	Teacher and staff competence and commitment	Adequate pedagogical competence and sustained responsibility in implementing WSA-consistent learning practice
4	Clear task division and collaborative culture	Reasonably clear organizational structure and cooperative working relationships across school stakeholders
5	Parental and committee support	Involvement in facility development and, where feasible, student-learning support
6	Environmental utilization as a learning resource	Use of the school's rural environment to support contextual, experiential learning
7	Multi-stakeholder support	Support from government, community, and private-sector actors

Source: Field interviews and observation, compiled by the researcher (2026).

Table 5: Factors Inhibiting WSA Implementation at SDN 010 Bongan

No.	Inhibiting Factor	Description
1	Limited funding	Constrained budget for facility development and specialized program support
2	Lack of specialized personnel	Absence of dedicated counseling, health, or arts-instruction staff
3	Facility inadequacy	Damage or limitation in certain learning-support facilities
4	Unstable internet access	Connectivity constraints affecting digital administrative and learning-support tools, including the Si TIBO application
5	Administrative workload	Reporting and administrative burden on teachers and education personnel
6	Uneven parental participation	Work-related time constraints limiting some parents' direct engagement in school activity

Source: Field interviews and observation, compiled by the researcher (2026).

Discussion

1. A Rural Case Study within a Predominantly Urban and International Evidence Base

Read against the international WSA literature summarized in Section 2.3, this study's central contribution lies in documenting sustained, effective WSA implementation within a rural, resource-constrained Indonesian elementary school, a setting underrepresented in an evidence base still dominated by developed-country and urban studies (Khamdit & Worapun, 2024; Kyriakides & Charalambous, 2020; Nordahl *et al.*, 2023) ^[13, 14, 19]. Consistent with Nordahl *et al.*'s (2023) ^[19] emphasis on system-wide coherence, SDN 010 Bongan's implementation strength appears to derive less from resource abundance, which this study's findings show to be genuinely constrained, than from coherent alignment among leadership commitment, communication practice, and stakeholder disposition, corroborating the proposition that WSA success depends more on organizational coherence than on resource volume alone.

2. Leadership as the Connective Thread across Edward III's Four Variables

This study's findings indicate that principal leadership functions not merely as one input among the four Edward III variables but as the connective mechanism linking them: leadership drives communication consistency, leadership decisions shape resource allocation and advocacy, leadership example reinforces disposition among teachers and staff, and leadership oversight sustains bureaucratic-structural coherence. This pattern is consistent with Sururi *et al.*'s (2023) ^[24] finding that Indonesia's Sekolah Penggerak program similarly depends heavily on principal leadership capacity, suggesting that leadership-dependence may constitute a structural feature of holistic, whole-school-type policy implementation in the Indonesian context specifically, rather than a peculiarity of this study's single case.

3. Infrastructure and Connectivity as Rural-Specific Constraints

The unstable internet access identified as a significant inhibiting factor illustrates a resource constraint with particular salience in rural, geographically extensive settings such as West Kutai Regency, distinct from the resource constraints typically documented in urban or developed-country WSA literature. This finding is consistent with Grepon *et al.*'s (2021) ^[10] broader observation that school information-system implementation in resource-constrained community settings faces distinctive infrastructural barriers not captured by studies conducted in better-connected environments, reinforcing that WSA implementation strategy in rural Indonesian schools must account for connectivity limitation as a structural, rather than incidental, planning consideration.

4. Parental Participation as a Partially Realized Symbiotic Relationship

Consistent with Erin *et al.*'s (2022) ^[8] proposition that sustainable whole-school policy requires genuinely reciprocal, symbiotic relationships among school, family, and community, this study's findings indicate that SDN 010 Bongan has established a meaningful, though incomplete, symbiotic relationship with parents: committee and parental support for facility development is substantial, while direct parental engagement in day-to-day learning support remains constrained by work-related time limitations. This partial realization suggests that WSA's community-participation dimension, while conceptually endorsed by all stakeholders, remains the approach's least fully operationalized component at this research site, an interpretation consistent with Sumarti *et al.*'s (2023) ^[23] broader finding that community participation, while valuable, requires deliberate structural facilitation to be fully realized rather than occurring spontaneously.

5. Comparison with Prior Studies

These findings both corroborate and extend the prior literature summarized in Table 2. Consistent with Giri *et al.* (2025) ^[9] and Hennessey *et al.* (2025) ^[12], this study confirms that coherent, multi-stakeholder-aligned whole-school implementation generates meaningful school-climate and wellbeing benefit. Consistent with Marmoah *et al.* (2023) ^[15], this study confirms that resource constraint constitutes a persistent implementation challenge even where implementation is otherwise judged effective. Consistent with Sururi *et al.* (2023) ^[24], principal leadership emerges here as a central success determinant. The study extends this literature by documenting these dynamics within a single, internally codified school-policy instrument in a rural elementary-school setting, a research configuration distinct from the national-program and international case studies dominating the reviewed comparator literature.

Conclusion

1. Summary of Findings

This study examined the implementation of the Whole-School Approach under Principal's Decree No. 339 of 2015 at SDN 010 Bongan, West Kutai Regency, using George C. Edward III's implementation model. On communication, WSA information has been conveyed clearly, openly, and consistently through socialization, meetings, supervision, and school communication media, though reach to parents with limited availability remains uneven. On resources, implementation is supported by teacher and staff competence, learning facilities, a conducive environment, funding, and community participation, though specialized facilities and internet connectivity remain constrained. On disposition, implementer commitment is strongly positive across the principal, teachers, education personnel, students, committee, and parents. On bureaucratic structure, implementation is supported by clear task allocation, procedures, coordination, supervision, and evaluation, though a fully dedicated WSA standard operating procedure has not yet been formalized. Implementation has generated concrete learning-quality outcomes, including more active and contextual learning, increased student participation and motivation, a safer learning environment, and improved academic and non-academic achievement.

2. Theoretical Implications

This study reinforces Edward III's proposition that communication, resources, disposition, and bureaucratic structure jointly determine implementation success, while extending the model by demonstrating that principal leadership functions as a connective mechanism linking all four variables in whole-school-type policy implementation specifically. The study further contributes to WSA scholarship by documenting sustained implementation within a rural, resource-constrained Indonesian elementary school, a setting underrepresented in an evidence base still dominated by developed-country and urban studies, and by identifying rural-specific constraints, particularly connectivity limitation, warranting distinct consideration in WSA implementation theory.

3. Practical Implications

For the principal, the findings support sustaining participatory leadership while strengthening WSA

implementation through a more measurable annual work program, encompassing clear objectives, success indicators, implementation schedule, responsible party, funding source, and evaluation mechanism, alongside expanded partnership with the Education Office, village government, health services, higher-education institutions, and the private sector to support specialized-personnel provision, teacher training, and facility development. For teachers, the findings support continued competency development in active, contextual, and collaborative learning design, including more structured use of problem-based and project-based learning and outdoor learning activity, alongside systematic documentation of assessment, remedial, enrichment, and reflection outcomes. For education personnel, the findings support developing a simpler, more integrated, digitally based administrative system to reduce teacher administrative burden, including refinement of the Si TIBO application with secure data storage, clear service procedure, and periodic document backup. For the school committee and parents, the findings support expanding involvement beyond facility development and communal activity toward direct monitoring of student learning progress, including a more regular Paguyuban Kelas meeting agenda, structured home-learning support programming, and flexible communication mechanisms for parents unable to attend in person owing to work commitments. For the West Kutai Regency Government and Education Office, the findings support sustained policy, budgetary, training, and mentoring support for WSA implementation, directed toward providing counseling and health or nutrition personnel, arts instructors, improved internet connectivity, learning-aid repair, and simplified, streamlined reporting requirements to avoid burdening schools with repetitive administrative procedure. For SDN 010 Bongan specifically, the findings support formalizing a dedicated standard operating procedure for WSA implementation encompassing communication mechanism, community engagement, resource management, task division, supervision, evaluation, and follow-up, alongside regular program evaluation drawing on academic and non-academic achievement, attendance, student engagement, parental satisfaction, and school-environment condition data.

4. Limitations of the Study

This study is subject to several limitations. First, it is confined to a single elementary school, meaning its findings cannot be generalized to other schools' WSA implementation without further comparative research. Second, the qualitative descriptive design privileges contextual depth over statistical generalization, meaning the patterns identified should be read as context-grounded findings specific to SDN 010 Bongan's institutional and geographic conditions. Third, the study relies on qualitative interview, observation, and documentation data rather than quantitative measurement of WSA's effect on standardized learning outcomes, a limitation future mixed-methods research could address.

5. Recommendations for Future Research

Future research is encouraged to extend this study by involving multiple schools and employing a mixed-methods approach, enabling WSA's effect on learning quality to be measured quantitatively alongside qualitative process

description. Further research could also examine WSA's longer-term effect on learning outcomes, motivation, character, environmental awareness, parental participation, and school culture, and could usefully compare rural WSA implementation across multiple geographically constrained districts to determine whether the leadership-dependence and connectivity-constraint patterns identified here reflect a broader pattern in Indonesia's rural elementary-education sector.

Taken as a whole, the SDN 010 Bongan case suggests that a Whole-School Approach can be implemented effectively even under meaningful rural resource constraint, provided principal leadership functions as a coherent connective force across communication, resource allocation, implementer disposition, and bureaucratic structure, underscoring that sustained WSA success in resource-constrained settings depends less on resource abundance than on leadership-driven organizational coherence.

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