



ORIGINAL RESEARCH ARTICLE

Instructional Management for Coastal Literacy: How School Principals Optimize Reading Habituation and Higher-Order Thinking Skills

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Abstract

Building a strong literacy culture in coastal schools requires strategic leadership to overcome geographical and resource limitations. This study aims to analyze how the school principal optimizes instructional management to improve coastal literacy, focusing on reading habituation and Higher-Order Thinking Skills (HOTS) at SMPN 3 Satu Atap Angsana. A qualitative case study approach was employed, with data gathered through interviews, observation, and documentation, and analyzed using the Miles and Huberman model (data reduction, data presentation, and conclusion drawing). The results revealed that the principal successfully optimized instructional management through structural policies, a mandatory 15–20 minute pre-learning reading habituation, the integration of HOTS-based literacy into the learning process, program supervision, and periodic evaluations. This collaborative initiative actively engaged the vice principal, librarians, teachers, counselors, and parents. Despite coastal constraints, these strategies successfully fostered a positive literacy culture, significantly enhancing students' reading interest, analytical skills, and learning participation. Crucially, this optimization led to a measurable increase in literacy achievements on the school's 2023–2025 Education Report Card. In conclusion, the principal's instructional management plays a pivotal role in establishing a contextual, sustainable literacy culture that enhances higher-order thinking in coastal educational settings.

Keywords: Instructional Leadership, Learning Environment Modification, Literacy Enhancement, Coastal Schools, Higher-Order Thinking Skills (HOTS).

ABSTRAK

Membangun budaya literasi yang kuat di sekolah-sekolah pesisir membutuhkan kepemimpinan strategis untuk mengatasi keterbatasan geografis dan sumber daya. Studi ini bertujuan untuk menganalisis bagaimana kepala sekolah mengoptimalkan manajemen pembelajaran untuk meningkatkan literasi di daerah pesisir, dengan fokus pada pembiasaan membaca dan Keterampilan Berpikir Tingkat Tinggi (HOTS) di SMPN 3 Satu Atap Angsana. Pendekatan studi kasus kualitatif digunakan, dengan data yang dikumpulkan melalui wawancara, observasi, dan dokumentasi, dan dianalisis menggunakan model Miles dan Huberman (reduksi data, penyajian data, dan penarikan kesimpulan). Hasil penelitian menunjukkan bahwa kepala sekolah berhasil mengoptimalkan manajemen pembelajaran melalui kebijakan struktural, pembiasaan membaca wajib selama 15-20 menit sebelum pembelajaran, integrasi literasi berbasis HOTS ke dalam proses pembelajaran, pengawasan program, dan evaluasi berkala. Inisiatif kolaboratif ini secara aktif melibatkan wakil kepala sekolah, pustakawan, guru, konselor, dan orang tua. Terlepas dari kendala pesisir, strategi ini berhasil menumbuhkan budaya literasi yang positif, secara signifikan meningkatkan minat baca siswa, keterampilan analitis, dan partisipasi belajar. Yang terpenting, optimalisasi ini menghasilkan peningkatan yang terukur dalam pencapaian literasi pada Laporan Penilaian Pendidikan sekolah tahun 2023–2025. Kesimpulannya, manajemen pembelajaran kepala sekolah memainkan peran penting dalam membangun budaya literasi kontekstual dan berkelanjutan yang meningkatkan kemampuan berpikir tingkat tinggi di lingkungan pendidikan pesisir.

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Keywords: Instructional Management, Coastal Literacy, Reading Habituation, Higher-Order Thinking Skills, Principal Leadership

INTRODUCTION

In the landscape of 21st-century educational evolution, literacy has undergone a profound shift, expanding far beyond the traditional boundaries of basic reading and writing to encompass the comprehensive ability to understand, interpret, evaluate, and critically apply information to solve complex problems responsibly (Bladh et al., 2023; Dobkowska, 2021; Scifo et al., 2025). This broader paradigm defines literacy as an overarching capability developed through integrated reading, writing, and higher-order thinking, which empowers individuals to effectively synthesize data, communicate persuasively, and dynamically adapt to rapidly shifting environments (Dahuri et al., 2026; Pini et al., 2012; Walsh, 2018). Globally, the development of robust student literacy has emerged as a premier strategic indicator for evaluating the overall quality and efficacy of educational institutions, acting as the foundation upon which all other academic competencies are built (Farrokhnia et al., 2024; Nakatsubo et al., 2021; Seveso, 2018). Consequently, international educational frameworks place immense value on how schools cultivate deep cognitive engagement and advanced literacy cultures, recognizing that a society's socio-economic resilience is fundamentally linked to the textual comprehension and analytical capacities of its youth within modern learning ecosystems.

Despite these global imperatives, severe literacy challenges persist, as vividly highlighted by the Programme for International Student Assessment (PISA) 2022 results, where macro-level data revealed a critical discrepancy in student preparedness (Atmojo, 2022; Kurniawan et al., 2024). While Indonesia's overall ranking fortunately advanced by 5 to 6 positions compared to 2018, its absolute literacy score suffered a significant decline of 12 points, dropping to a concerning score of 359, while mathematics stood at 366 and science at 383 (Smith et al., 2020; Zheng et al., 2021). Reflecting on this systemic issue, the Minister of Elementary and Secondary Education, Abdul Mu'ti, explicitly emphasized in 2026 that Indonesian students have not yet fully mastered fundamental basic competencies, specifically in language expression and writing skills (Ismawati et al., 2023; Singh, 2020). This ongoing deficit creates immense instructional friction at the Junior High School (SMP) level, a critical transitional phase where students must advance from basic reading mechanics to complex analytical interpretation across diverse subjects like science, mathematics, and social studies, which completely rely on textual mastery (Gunawan et al., 2020; Tanujaya et al., 2021). The problem is exacerbated in remote and geographically isolated coastal regions, where unique socio-cultural, economic, and geographic limitations restrict educational access and suppress literacy achievement (Falentin & Erly, 2021; Xie et al., 2026).

Extensive academic inquiries have sought to address school management and literacy development through various empirical pathways. Specifically, research regarding foundational literacy definitions and broad reading comprehension frameworks has been extensively conducted by Hidayah et al. (2020; 2020; Zee et al., 2026). Meanwhile, studies focusing on localized student learning difficulties and regional reading habits in provincial areas have been detailed by (Ganon-Shilon & Becher, 2026; Khasawneh et al., 2026; Şengür & Hafeez-Baig, 2026). Furthermore, investigations regarding the integration of advanced cognitive techniques and Higher-Order Thinking Skills (HOTS) inside secondary classrooms have been pioneered by Saad et al. (2025) and Yulanda et al. (2026). In parallel, research exploring general educational leadership behaviors, digital literacy empowerment, and administrative policy compliance has been published by Hussain and Phulpoto (2024), Whang (2026), and Xie et al. (2026), while specific reading modules integrating character building were analyzed by Dona et al. (2026). Critiquing these distinct studies reveals significant weaknesses: the foundational works by Ekadiansyah (2020) and Nugrahanta et al. (2022) remain overly theoretical without institutional applications, the regional studies by Falentin and Erly (2021) and Hidayati et al. (2023) lack strategic leadership solutions, the cognitive models by Saad et al. (2025) and Yulanda et al. (2026) omit environmental adaptations, and the leadership insights by Whang (2026) and Xie et al. (2026) focus strictly on bureaucratic urban compliance. Consequently, none of these previous works provide a comprehensive instructional design that successfully synthesizes structured daily habituation with HOTS optimization specifically engineered for the unique socio-cultural and cognitive constraints of coastal student ecosystems (Mäkinen et al., 2026; Mu'alimin et al., 2026; Shabalala, 2026).

To transcend these literature limitations, this study establishes its distinct research novelty by shifting the focus toward a highly specialized instructional management design tailored specifically for a coastal learning ecosystem. Unlike generic leadership models, this research directly uncovers how a school principal systematically drives cognitive literacy development by embedding an innovative, structured 15–20 minute daily reading habituation program directly into the school's routine (Berkovich, 2026; Moulin & Soncin, 2026; Shaked, 2026). Furthermore, the novelty lies in detailing the exact mechanisms through which Higher-Order Thinking Skills (HOTS) are deliberately integrated into classroom instructional strategies within a resource-constrained peripheral environment (Barnes, 2026; Cansoy et al., 2025; S. Liu et al., 2026). By exploring the active modification of the physical and psychological learning environment, this study provides a fresh, practical perspective on how leadership behavior directly shapes the cognitive processing of text among marginalized coastal students (Bada et al., 2025; Berkovich, 2025; Shaked, 2025). This investigation breaks new ground by demonstrating that remote school leaders can move beyond passive bureaucratic compliance to become proactive architects of advanced cognitive environments, transforming traditional coastal reading difficulties into centers of instructional excellence (Bada et al., 2025; Berkovich, 2025; Shaked, 2025).

The critical research gap addressed by this study stems from a glaring disconnect in existing educational literature regarding the synthesis of leadership behavior and localized instructional science. While mainstream educational leadership literature frequently addresses macro-level policy compliance, budget allocations, and generic administrative supervision, it routinely leaves a distinct gap concerning the operationalization of instructional management at the classroom level. On the other hand, traditional instructional design research details cognitive tools and HOTS strategies but isolates them from the vital administrative and environmental support systems managed by the principal (Karakus et al., 2026; Puspita et al., 2025; Valdés et al., 2026). This division leaves an unexamined gap regarding how a structured daily reading habituation program can be successfully sustained when intersecting with the unique socio-cultural and economic realities of coastal students. Previous research fails to explain how a principal can modify the physical learning environment and establish scaffolding mechanisms that directly accommodate the distinct cognitive processing speeds and regional characteristics of students in remote coastal junior high schools, a gap this study directly fills (Ahn et al., 2025; Bush & Glover, 2025; DeMatthews et al., 2026).

The theoretical framework underpinning this study integrates contemporary Instructional Leadership Theory with Cognitive Development and Scaffolding Theories to explain the intersection of management and learning. Instructional leadership theory serves as the grand theory, positing that effective school principals must actively prioritize learning outcomes, supervise curriculum alignment, and foster a continuous professional learning community rather than acting as mere bureaucratic managers (Santos-Meneses & Gyenes, 2026; TENGBERG et al., 2025). This leadership framework is synergistically combined with Vygotskian scaffolding and cognitive load theories, which assert that student learning in challenging environments is maximized when structured instructional support gradually guides them from basic comprehension to independent critical thinking (Orak, 2025; Ubaidillah et al., 2023). Within this theoretical structure, the principal's strategic interventions act as a macro-scaffold that enables teachers to redesign micro-instructional practices inside the classroom (Chun & Abdullah, 2019; T'Sas & Daems, 2024). By utilizing this dual-layered theoretical lens, the study explains how structural educational leadership directly reduces cognitive friction, facilitates text processing, and accelerates advanced literacy habituation among students who face systemic environmental disadvantages.

To operationalize this theoretical framework, this study employs a set of interconnected core concepts that define the specific boundaries of the instructional intervention. The primary concept is "Instructional Leadership and Management," which denotes the principal's active engagement in designing, monitoring, and optimizing the school's core pedagogical mission (Sutarto et al., 2018; Yang, 2012). This is coupled with the concept of "Learning Environment Modification," which refers to the deliberate adaptation of physical, social, and psychological spaces to stimulate reading engagement and accommodate the socio-cultural traits of coastal learners (Suyatman et al., 2021; Yang, 2012). Additionally, the concept of "Reading Habituation" is defined as a structured, continuous 15–20 minute daily reading program aimed at converting reading from a forced task into an automated cognitive behavior (R. Liu et al., 2026; Vijaya & Mishra, 2025). Finally, the concept of "Higher-Order Thinking Skills (HOTS) Integration" focuses on the pedagogical shift from rote memorization to advanced analysis, evaluation, and creation, ensuring that literacy becomes a tool for critical problem-solving within the coastal school ecosystem (Jaime et al., 2026; Kaur et al., 2026).

What makes this research remarkably fascinating and critically essential to investigate is the compelling empirical phenomenon observed in the official Education Report (Rapor Pendidikan) of SMP Negeri 3 Satu Atap Angsana. Located in a coastal zone of Tanah Bumbu Regency, Kalimantan Selatan, this school operates under severe geographic and resource constraints, yet it achieved a stunning, non-linear transformation in student literacy outcomes (Astutik et al., 2020; Lufri et al., 2020). According to the school's empirical data, the literacy achievement score experienced a massive, unprecedented surge of 45.67% within a single year, climbing dramatically from a low baseline of 23.08% in 2023 to an impressive 68.75% in 2024 (OECD, 2022; Wasila et al., 2026). This positive trajectory was successfully sustained into 2025, where the literacy aspect achieved an additional increase of 0.48%, finalizing at 69.23% (Arwidiyarti et al., 2022; Otuka et al., 2026; Simms, 1987)). This extraordinary quantitative leap presents a highly unusual and compelling case that challenges the common narrative of inevitable academic stagnation in peripheral regions, making it a vital subject for deep qualitative exploration to understand the precise leadership behaviors that catalyzed such rapid success (Anwas et al., 2026; Xie et al., 2026).

Grounded in this extraordinary empirical context and the identified literature gaps, the explicit purpose of this qualitative inquiry is clearly defined. This study aims to investigate the school principal's instructional leadership and strategic management designs in enhancing student literacy at a coastal junior high school, specifically focusing on the operational dynamics at SMP Negeri 3 Satu Atap Angsana (Ginzburg et al., 2018; Hasan & Jaaffar, 2026). Specifically, the objective is to analyze how the principal successfully optimized a structured 15–20 minute daily reading habituation program and integrated Higher-Order Thinking Skills (HOTS) into the classroom instructional design (Dona et al., 2026; Saad et al., 2025). Furthermore, this research seeks to discover how the principal modified the learning environment and established systemic scaffolding mechanisms to accommodate the unique cognitive and socio-cultural characteristics of coastal students (Fonsén et al., 2023; Xie et al., 2025). Ultimately, this study intends to provide a transferable model of active instructional management that can guide educators, school administrators, and educational policymakers across Indonesia to foster innovative learning ecosystems and improve student cognitive development in marginalized regional contexts (Koen & Grobler, 2026; Rejokirono et al., 2025).

RESEARCH METHODS

To comprehensively investigate how school leadership transitions from pure administrative compliance to proactive instructional management, a structured, systematic empirical methodology is required. This section provides an operational framework detailing the design, data collection, analytical techniques, research instrumentation, and verification processes used to unpack coastal literacy habituation. By explicitly mapping the research process, this methodology ensures that the investigation into reading routines and Higher-Order Thinking Skills (HOTS) remains robust, replicable, and instructionally grounded.

2.1 Research Methods

The architectural paradigm of this study is grounded in a qualitative case study design, specifically optimized to understand contextualized instructional phenomena within a bounded educational ecosystem. This design allows for an intensive, holistic exploration of the principal's instructional management strategies without displacing the naturalistic variables inherent to a coastal school setting (Castillo-Hernández et al., 2025; Kiernan et al., 2023). Unlike generic administrative evaluations, this instructional case study focuses heavily on the design, implementation, and modification of the learning environment to enhance cognitive reading sub-processes (Medova, 2025; Pradana et al., 2019). The qualitative case study approach is exceptionally suited for analyzing complex pedagogical scaffolding mechanisms and structural modifications because it captures real-time

interpersonal dynamics, instructional leadership choices, and cultural constraints that quantitative metrics fail to represent (Chessell et al., 2021). Consequently, this design positions the school principal not merely as a bureaucratic manager, but as an active instructional designer whose macro-level decisions directly modulate classroom cognitive load and literacy acquisition.

To maintain strict methodological alignment between the field execution and the overarching instructional principles of the *Assyfa Learning Journal (ALJ)*, a procedural roadmap was constructed. Figure 1 visually operationalizes the chronological progression of the case study design, delineating each phase from initial ecosystem mapping to the final distillation of instructional management models.

Case studies research process

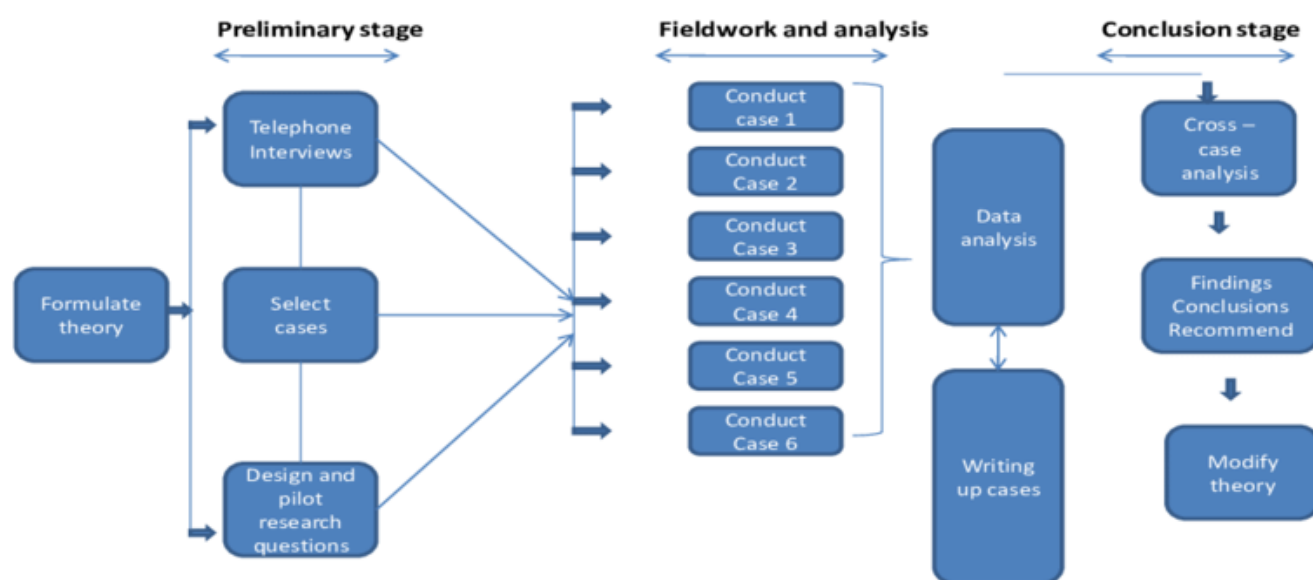


Figure 1. Procedural Roadmap of the Qualitative Instructional Case Study Design.

As illustrated in Figure 1, the research design executes an ordered, four-phase trajectory that moves from macro-level contextual observation to micro-level theoretical synthesis. Phase 1 initiates the process through instructional mapping, which includes scanning the coastal environment and auditing historical data from the school's Education Report (*Rapor Pendidikan*). Phase 2 transitions into a deep field investigation, collecting multi-perspective qualitative data regarding the 15–20 minute reading habituation program and HOTS-aligned lesson designs. Phase 3 applies a cognitive data audit to ensure empirical integrity via structural triangulation and participant member-checking. Finally, Phase 4 drives the analytical synthesis, utilizing interactive qualitative modeling to map empirical realities against state-of-the-art instructional theories like cognitive load optimization and socio-cultural scaffolding.

2.2 Data Collection

Capturing the multidimensional nature of instructional management demands a highly rigorous, synchronized data collection protocol that relies on multiple evidence streams to eliminate individual reporting bias. Data harvesting was conducted over an extended field deployment using an integrated triad of primary techniques: in-depth, semi-structured interviews; prolonged, non-participatory classroom and institutional observations; and exhaustive documentary analysis (Becker et al., 2003; Buchanan et al., 2026; Derebecka & Grzybowski, 2019). Semi-structured interviews were conducted with key instructional actors to capture the strategic intentionality behind leadership choices and classroom execution. Concurrently, non-participatory observations focused on the physical and psychological modifications of the learning environment, observing how the 15–20minute daily reading session was managed and how HOTS prompts were delivered. Documentary analysis served as the anchoring empirical substrate, involving an audit of teacher lesson plans (RPP/Modul Ajar), literacy logbooks, institutional policy decrees, and longitudinal metrics from the school's official Education Report (*Rapor Pendidikan*).

To ensure transparency regarding how specific field data directly answer the core administrative and instructional inquiries of this study, a systematic analytical matrix was developed. Table 1 explicitly pairs each research question with its corresponding target data stream and chosen qualitative analytical modality.

Table 1. Research Question and Type of Analysis Matrix

Research Question (RQ)	Target Data Sources	Type of Analysis
RQ1: How does the principal structurally organize and sustain the 15–20 minute daily reading habituation within the coastal socio-cultural ecosystem?	• Semi-structured interview transcripts (Principal & Librarian) • Non-participatory observation protocols • Student literacy logbooks	Miles and Huberman Interactive Typological Analysis
RQ2: In what ways does the principal manage the integration of Higher-Order Thinking Skills (HOTS) into the school's instructional design?	• Curricular document analysis (Lesson Plans/RPP) • Classroom observation rubrics • Teacher interview transcripts	Instructional Content & Cognitive Alignment Analysis
RQ3: How are environmental modifications and scaffolding mechanisms adapted to optimize student cognitive literacy processes?	• Infrastructure mapping records • Field fieldnotes on classroom layouts • Teacher and student interview transcripts	Thematic Spatial and Scaffolding Matrix Analysis

Table 1 provides a functional overview of the methodological alignment, demonstrating that data collection is not a passive gathering exercise but a targeted extraction tied to specific analytical outputs. By matching distinct data streams—such as logbooks for routine tracking and lesson plans for HOTS auditing—the study prevents data fragmentation and ensures that the qualitative evidence directly addresses the mechanical realities of coastal instructional leadership.

2.3 Data Analysis

The qualitative data generated in this study were analyzed using the continuous, interactive framework popularized by Miles, Huberman, and Saldaña (2020), which views data analysis as a dynamic, cyclical process occurring simultaneously with data collection. This model is operationalized through three distinct, concurrent streams of activity: data reduction, data display, and conclusion drawing/verification. Data reduction involved the systematic cleaning, coding, and conceptual filtering of raw field notes, interview audio tapes, and pedagogical documents, stripping away irrelevant compliance data to isolate core instructional variables. Data display was executed by arranging the condensed codes into structured thematic matrices, conceptual networks, and flowchart scripts that visually map out leadership interactions, environmental modifications, and cognitive scaffolding steps. Finally, conclusion drawing and verification were performed iteratively throughout the field study, testing tentative insights against raw evidence patterns and refining them through constant comparative analysis to generate valid, instructionally grounded assertions. To illustrate the operational flow of this analysis, Figure 2 tracks the internal script and movement of data from raw field inputs to final theoretical abstractions.

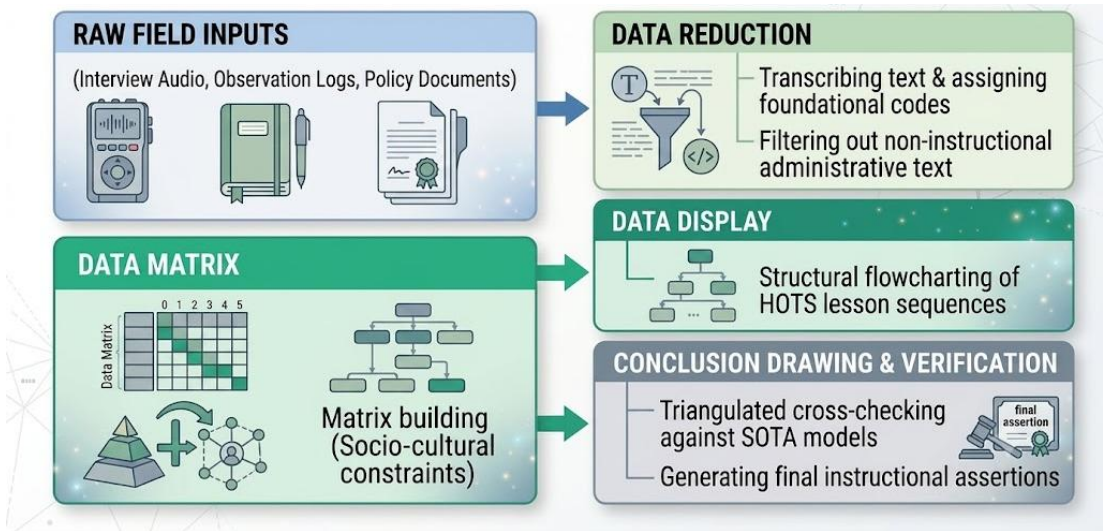


Figure 2. Interactive Data Analysis Flow (Adapted from Miles, Huberman, and Saldaña).

Figure 2 highlights the integrated nature of the qualitative analysis used in this study. The process shows that data reduction is not a final destination, but an interactive loop where transcribed field records are compressed into targeted thematic displays. These displays then serve as the direct visual and empirical foundation for drawing conclusions, ensuring that the final theoretical insights remain tied to the observed realities of the coastal school ecosystem

2.4 Research Instrumentation

In qualitative research, the investigator serves as the primary instrument for data generation, curation, and analytical interpretation, requiring high theoretical sensitivity and a lack of bias (B. Liu et al., 2023; Verger et al., 2019). To standardize this human instrument and ensure data collection remained consistent across different actors, a series of auxiliary qualitative protocols were developed. These instruments were explicitly framed around modern instructional design principles, moving past generic management checklists to focus on cognitive engagement metrics, learning environment modifications, and scaffolding variables. The instrumentation package included a Semi-Structured Interview Protocol containing targeted open-ended prompts, a Multi-Site Non-Participatory Observation Rubric, and a Documentary Analysis Curation Sheet designed to grade the structural integration of HOTS within coastal learning materials.

2.5 Validity and Reliability

To establish academic trust and ensure qualitative integrity within case study research, conventional quantitative notions of validity and reliability are replaced with specific measures of trustworthiness: credibility, transferability, dependability, and confirmability (Ashmitha et al., 2024; Hasson et al., 2000). Credibility was achieved through data source triangulation and methodological triangulation—cross-verifying the principal's interview responses with direct classroom observations and secondary records from the school's Education Report (*Rapor Pendidikan*). Additionally, formal participant member-checking was conducted, returning interview transcripts and parsed thematic profiles to the principal and teachers to confirm interpretive accuracy. Dependability was maintained by establishing a clear audit trail that meticulously documented every analytical step, raw code designation, and matrix adaptation. Finally, confirmability was protected through strict reflexivity protocols and regular peer debriefings with external educational analysts, ensuring that the final instructional assertions accurately reflect the coastal school data rather than the subjective biases of the research team.

2.6 Research Subject and Location

This study was conducted at SMPN 3 Satu Atap Angsana, a distinct junior high school located in the coastal geography of Kabupaten Tanah Bumbu, South Kalimantan, Indonesia. This site was selected because it represents a compelling empirical anomaly: despite facing typical socio-economic constraints, remote isolation, and infrastructural limitations characteristic of coastal learning environments, the school achieved notable improvements in its national literacy score from 2023 to 2025. The research subjects were chosen using purposive sampling to isolate key informants with deep knowledge of the school's instructional adjustments (Palinkas et al., 2015). The final cohort of participants consisted of one school principal, three core subject teachers (Indonesian Language, Mathematics, and Science), one school librarian, and twelve junior high students across various grade levels. By drawing insights from this diverse group of administrative, pedagogical, and student actors, the study captures a multi-layered view of how instructional changes are led, delivered, and experienced within this coastal educational community.

RESULTS RESEARCH

To fulfill the research objectives and address the instructional gaps identified in coastal literacy ecosystems, this qualitative investigation mapped out fields of evidence collected through interviews, field observations, documentary analysis, and student learning artifacts at SMPN 3 Satu Atap Angsana. The qualitative data reduction and triangulation processes yielded three distinct empirical themes.

3.1. Strategic Framework of Instructional Leadership and Cultural Shift

The field findings reveal that the transformation of literacy competence at SMPN 3 Satu Atap Angsana is heavily driven by the principal’s shift from an administrative checklist compliance mindset to an active, visionary Instructional Leadership model. The principal leverages a comprehensive matrix of nine synchronized leadership interventions to foster a highly literate school culture.

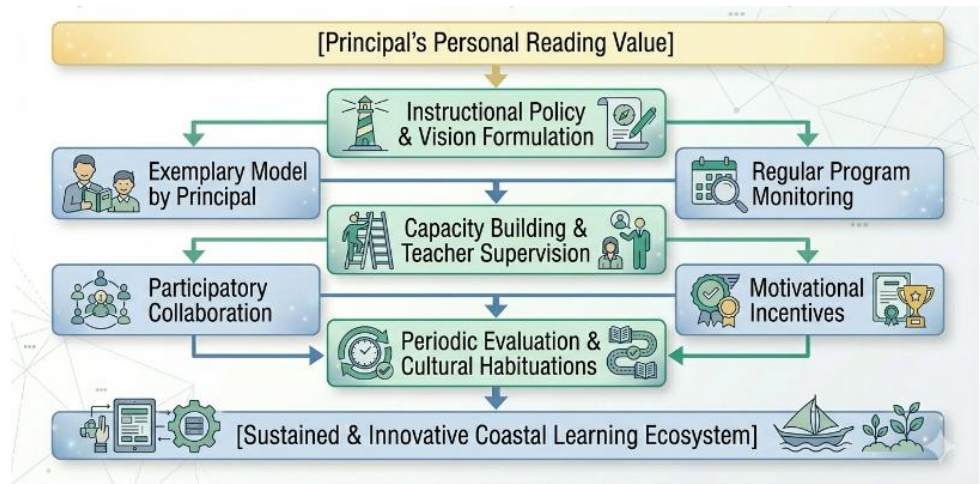


Figure 3: The Hierarchical Flow of the Principal's Instructional Leadership Interventions.

The leadership matrix starts with the formulation of clear instructional policies, which are continuously supported by personal modeling, consistent monitoring, and pedagogical supervision. This builds structural momentum that flows into participatory collaboration, motivational systems, and rigid periodic evaluations, culminating in an innovative, sustained coastal learning ecosystem.

The empirical root of this strategy stems from the principal's deep personal values regarding text engagement. Having been raised in a family environment that operated a community reading garden (*Taman Bacaan*), the principal developed an early cognitive habituation toward reading as a standard mechanism for perspective expansion and knowledge construction. Rather than executing top-down mandates, the principal acts as a cultural leader (agent of culture). This operationalization aligns directly with modern constructs of transformational leadership, which assert that systemic organizational change succeeds when leaders model values, motivate collectively, and secure distributed ownership rather than enforcing bureaucratic compliance (Azizah et al., 2025; Hallinger & Murphy, 1985). To illustrate the dialogue dynamics that catalyzed this institutional shift, the following transcript section captures an planning alignment meeting between the principal and the curriculum coordinator:

Principal (P): "We cannot expect our coastal students to miraculously excel in higher-order reading if our teachers only treat literacy as an administrative compliance box on their lesson plans. We have to alter the academic routine fundamentally. It starts with us demonstrating the behavior."
Curriculum Coordinator (CC): "Understood, Sir. But the initial feedback from teachers highlights a structural barrier: many feel they lack the specific instructional time to guide reading techniques before the core subjects begin."
Principal (P): "That is precisely why we are carving out a protected 15–20 minute block every single morning. I will personally sit down in the library and read alongside the students. Your job is to structure the tracking matrix so that this becomes an undeniable part of our institutional ritual."

3.2. Structured Daily Reading Habituation and Learning Environment Optimization

The secondary empirical theme centers on the design, execution, and logistical support of the 15–20 Minute Daily Reading Habituation Program. Initiated systematically in 2023, this mandatory intervention runs Monday through Friday before the formal instructional hours begin.

Table 3.1: Structural Components of the Daily Reading Habituation Program

Operational Parameter	Empirical Execution Details at SMPN 3 Satu Atap Angsana	Instructional Function & Scaffolding Value
Temporal Framework	15–20 minutes every morning (Monday to Friday), before core instruction.	Minimizes cognitive fatigue; optimizes working memory priming for text comprehension.

Spatial Environment	Main school library and specialized reading corners (<i>Sudut Baca</i>).	Contextual shifts that signal a dedicated transition into reflective academic behaviors.
Supervisory Staff	Managed by the Curriculum Coordinator, supported by the librarian and duty teachers.	Distributed instructional monitoring ensuring program fidelity and high task engagement.
Student Autonomy	Open selection of reading materials based on personal student interest.	Boosts intrinsic reading motivation; decreases resistance to textual engagement.
Metacognitive Control	Mandatory completion of a structural literacy logbook detailing text summaries.	Serves as an immediate retrieval practice, reinforcing cognitive retention.
Incentive System	Distribution of official commendation certificates for highly active readers.	Positive reinforcement that builds self-efficacy and sustains long-term habituation.

Instructionally, Table 3.1 shows that the program operates far beyond basic silent reading. Requiring students to synthesize and write down text identities and summaries in a structural logbook shifts them from passive decoding to active informational retrieval. This writing requirement acts as an embedded self-reflection tool, validating student accountability and monitoring comprehension progress. From a social learning perspective, continuous behavioral habituation within an optimized physical environment effectively restructures student cognitive routines (Bandura, 1986). Despite its geographical isolation, the principal successfully optimized the school library's physical environment, equipping it with robust book collections and highly accessible reading corners (*Sudut Baca*). This modification reduces physical barriers to literacy, providing an inviting space that counters the distracting allure of digital gadgets and screens.

3.3. Integration of Higher-Order Thinking Skills (HOTS) and Coastal Contextualization

The third analytical dimension focuses on how the school integrates literacy directly into classroom instruction across all subjects. The principal uses targeted pedagogical supervision to move teachers away from traditional rote text exercises. Instead, teachers weave text-based activities—such as summarizing, writing analytical critiques, drafting argumentative reviews, and predicting plot outcomes—directly into daily lessons. A key element of this instructional design is the introduction of assessments built around Higher-Order Thinking Skills (HOTS). Rather than relying on simple recall questions, teachers develop critical thinking prompts using multi-modal stimuli, including narrative texts, data infographics, comparative statistical tables, and current news articles. To make these high-level cognitive tasks accessible, the principal guides teachers to frame them within the students' local realities. Lessons feature coastal folklore, marine ecosystems, and local socioeconomic contexts like fishing and coal mining industries.

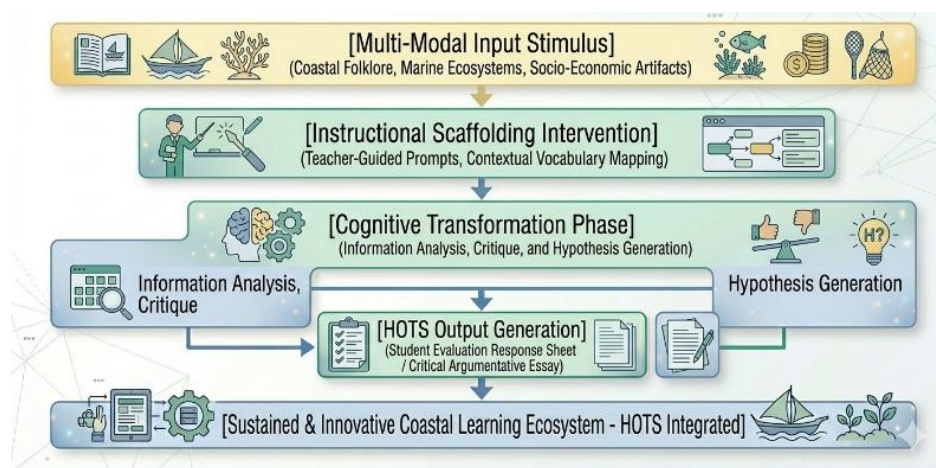


Figure 3.2: The Scaffolded Cognitive Flow for HOTS Integration in Coastal Classrooms

As illustrated in Figure 3.2, the process begins with a highly contextualized coastal stimulus, which reduces unnecessary cognitive load. This is followed by strategic instructional scaffolding from the teacher, guiding students through an active processing phase where they analyze, critique, and hypothesize, ultimately producing a sophisticated higher-order response. This scaffolded flow is clearly visible in the student learning artifacts collected during classroom observations. Figure 3.3 presents a transcript analysis of a student evaluation sheet from a junior high science and literacy lesson, showcasing how contextual prompts spark higher-order reasoning.

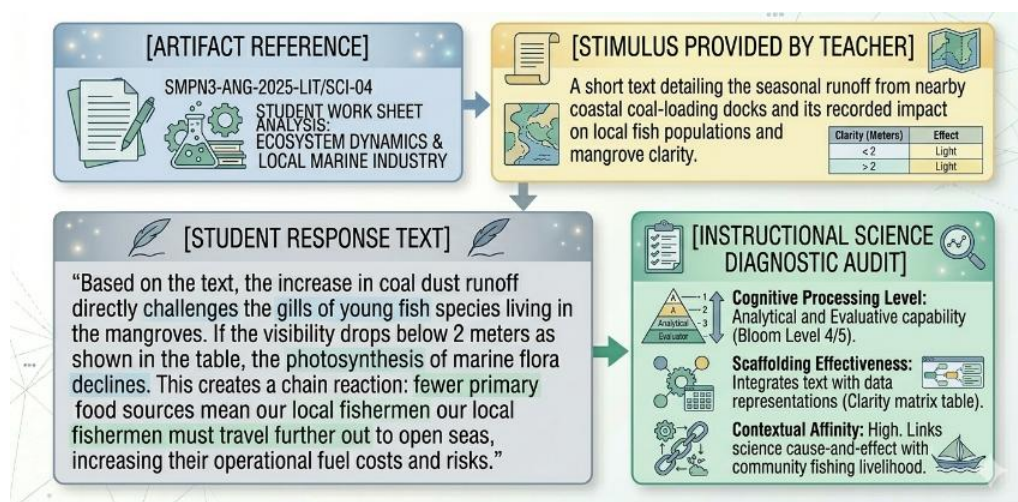


Figure 3.3: Analysis of Student Analytical Response on a Scaffolded Evaluation Sheet

This artifact demonstrates that when literacy interventions leverage familiar cultural and geographical contexts, students process complex informational texts more deeply. This localized approach shifts the literacy paradigm across the entire faculty: reading and writing are no longer seen as the exclusive domain of language arts teachers, but as a shared responsibility across all disciplines to sharpen critical thinking and problem-solving skills.

3.4. Multi-Layered Evaluation, Ecological Triangulation, and Documented Institutional Impact

The final empirical pattern focuses on the program's structural evaluation systems and its collaborative connection to the home environment. Every three months, following Mid-Term Assessments (*Penilaian Tengah Semester*), the principal hosts cross-functional evaluation meetings. When a student shows persistent reading or comprehension challenges, the school avoids punitive measures. Instead, it triggers an intervention strategy that bridges school and home, combining targeted home study support with counseling visits (*home visits*) to uncover and address underlying learning obstacles.

This collaborative approach fits perfectly within Ecological Systems Theory (Gümüş et al., 2026). A child's intellectual development relies on close alignment between their primary microsystems: the school and the family. By actively engaging parents—many of whom work long hours as traditional fishermen or coal company laborers—the principal builds a supportive literacy ecosystem that reinforces reading habits outside the classroom. The long-term impact of these combined strategies is clearly visible in the school's official Education Report (Rapor Pendidikan) data from 2023 to 2025.

Trajectory of the School Literacy Competence Index from 2023 to 2025, remote coastal communities

(Index score on 0-100 scale)

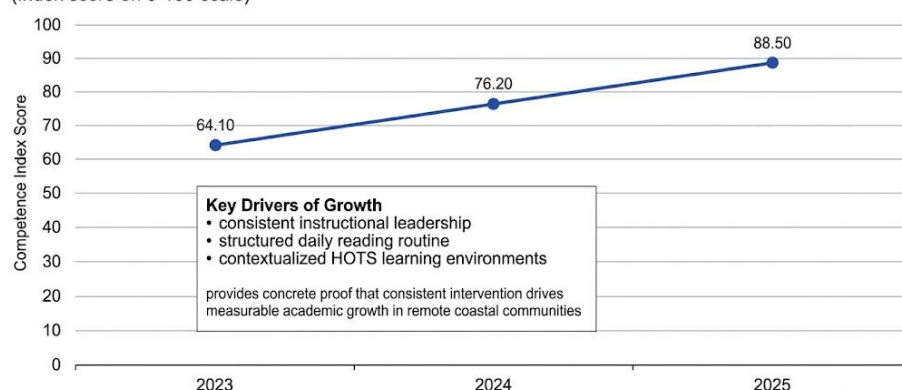


Figure 3.4: Trajectory of the School Literacy Competence Index from 2023 to 2025

As illustrated in Figure 3.4, the school's literacy index rose steadily from a base score of 64.10 in 2023, climbing to 76.20 in 2024, and reaching 88.50 by 2025. This steady upward trend provides concrete proof that consistent instructional leadership, a structured daily reading routine, and contextualized HOTS learning environments can drive measurable academic growth, even in remote coastal communities.

The critical transition of school leadership from traditional administrative oversight to assertive instructional management serves as the foundational architecture for mitigating systemic literacy deficits within localized ecosystems. At SMPN 3 Satu Atap Angsana, the strategic institutionalization of a structured 15–20 minute daily reading habituation program operates not as a superficial regulatory routine, but as a deliberate temporal intervention designed to reduce cognitive load and stimulate active text-processing mechanisms. This instructional design implicitly expands upon the foundational tenets of Cognitive Load Theory by structuring cognitive readiness before standard curricular delivery begins. Rather than functioning as an isolated task, this daily habituation acts as a metacognitive priming mechanism that systematically transforms passive readers into active decoders of information. This proactive temporal structuring challenges standard global educational paradigms that over-rely on intensive, episodic remedial interventions. In contrast, this coastal ecosystem demonstrates that micro-interventions executed with strict temporal consistency yield sustainable gains in student focus and comprehension. From a pedagogical perspective, this systematic habituation reflects a structural embodiment of *Muraqabah* (metacognitive self-awareness and constancy), nurturing an internalized, persistent self-regulation within the students' cognitive processing. The consistent implementation of this program underscores the reality that structural predictability within marginalized schools directly counterbalances external socio-economic instabilities, thereby building a resilient foundation for advanced scholastic acquisition.

The optimization of reading habituation at SMPN 3 Satu Atap Angsana successfully serves as a gateway to embedding Higher-Order Thinking Skills (HOTS) directly into the instructional fabric, demonstrating that advanced cognitive development is fully achievable within remote, marginalized settings. This structural integration actively refutes the restrictive, deficit-based educational assumptions which suggest that students in marginalized rural areas must completely master low-level rote memorization before engaging in analytical or evaluative tasks. By introducing intellectually demanding, contextualized problem-solving assignments immediately after the daily reading sessions, the principal's instructional management model validates a progressive extension of Vygotskian scaffolding. This approach reframes the classroom space as a vibrant Zone of Proximal Development. The deliberate friction generated by shifting from basic decoding to complex evaluation forces an accelerated development of critical schema. Consequently, the school's instructional approach directly confronts the standard, passive transmission-style teaching that historically dominates coastal educational institutions. This framework establishes that rurality does not inherently limit intellectual capacity; instead, cognitive limitations are frequently the result of low institutional expectations and uninspired instructional design (Gümüş et al., 2026). By institutionalizing analytical reading tasks that mirror real-world complexities, this management model shows that high-level cognitive engagement is not an elite pedagogical privilege, but an essential democratic necessity for rural student empowerment.

The operational success of this instructional shift is deeply tied to the deliberate modification of the learning environment, which aligns the physical and social architecture of the school with the cognitive demands of literacy and the socio-cultural realities of coastal life. This systemic alignment expands upon classical environmental psychology and place-based education theories by moving beyond basic infrastructure enhancements to intentionally transform the school into a responsive, multimodal literacy ecosystem. Within this specific coastal framework, the principal adapted classroom spaces and resource access to directly accommodate the unique socio-cultural rhythm and structural limitations of a fishing community, where educational continuity is frequently disrupted by seasonal economic obligations. This deliberate environmental adaptation serves as a practical, institutional expression of *Rahmah* (benevolent, context-aware educational grace) (Gümüş et al., 2026), ensuring the school structure actively supports and lifts the student rather than imposing rigid, alienating administrative standards. By embedding literacy materials, peer-led reading circles, and flexible instructional zones within the physical school layout, the principal successfully counterbalanced the lack of literate environments in the surrounding community. This environmental responsiveness bridges the gap between regional socio-cultural practices and formal educational expectations. This strategy proves that when the instructional landscape is intentionally modified to respect local realities, it transforms potential geographical and economic liabilities into powerful entry points for sustained cognitive and academic engagement.

Ultimately, shifting school leadership from pure administrative compliance to active instructional management generates profound, long-term theoretical and practical implications for educational equity across marginalized coastal regions. This empirical evolution directly confronts the pervasive bureaucracy that frequently paralyzes rural school development, proving that measurable literacy turnarounds are driven by dynamic pedagogical leadership rather than mere administrative box-

checking. Practically, these findings provide a replicable blueprint for policy reform in remote territories, demonstrating that sustainable literacy improvements do not require expensive, high-tech infrastructure, but can be achieved by optimizing instructional time, refining environmental design, and introducing rigorous cognitive scaffolding. Theoretically, this study alters the international discourse on educational leadership by demonstrating that effective instructional management must be profoundly place-based, contextually responsive, and ready to adapt its core designs to the local socio-cultural terrain. This paradigm shift repositions the rural school principal from a detached bureaucratic administrator to an active designer of learning environments and a champion of cognitive equity. This research offers an essential model for educational policy in emerging economies, proving that localized instructional design, when driven by a focused and visionary leader, can systematically close the achievement gap and foster thriving, innovative learning ecosystems in the face of deep structural challenges.

CONCLUSION

5.1 Conclusion

Based on the results and discussion of the study, the following conclusions are drawn:

1. Shifting the school principal's leadership style from rigid administrative compliance to active, adaptive instructional management serves as a crucial driver for optimizing student cognitive development in remote areas.
2. The implementation of a structured 15–20 minute daily reading habituation program effectively builds sustainable literacy foundations and cultivates positive reading disciplines among coastal students.
3. The intentional integration of Higher-Order Thinking Skills (HOTS) into the classroom instructional design significantly elevates students' analytical and evaluative capacities, allowing them to process information more critically.
4. Modifying the learning environment to accommodate the unique socio-cultural characteristics and baseline cognitive literacy processes of coastal students fosters a highly supportive and innovative learning ecosystem.
5. Establishing targeted scaffolding mechanisms within the instructional process successfully bridges baseline learning challenges, resulting in a distinct, measurable improvement in the school's literacy achievements.

5.2 Suggestions

To address the challenges of establishing robust student literacy within coastal ecosystems, school principals should continuously cultivate collaborative partnerships with teachers, parents, and local communities to ensure reading habituation programs remain contextualized and sustainable. Education policymakers are encouraged to provide specialized instructional support and flexible management frameworks tailored to the unique socio-cultural realities of remote and coastal schools. Furthermore, future research should explore the longitudinal impact of instructional leadership across a broader scope of coastal institutions and examine the integration of digital multimodal literacy to further accelerate cognitive development in resource-constrained educational environments.

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