



From Needs Analysis to a RADEC-School Literacy Movement Learning Design for Fifth-Grade Reading Comprehension and Expository Writing

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ABSTRACT

Purpose: Elementary students in Indonesia still struggle with reading comprehension and writing, while the School Literacy Movement (SLM) has not been fully translated into classroom instruction. This study documented a needs analysis and formulated a RADEC-SLM learning design for fifth-grade reading comprehension and expository writing. **Methods:** A design study covering the analysis and design phases of ADDIE was conducted in eight elementary schools in Purwakarta, Indonesia. Document study of 17 literacy documents, classroom observations, interviews with eight teachers, and questionnaires completed by teachers and 224 fifth graders provided the data, which were analyzed qualitatively and descriptively; questionnaire values are composite indicator percentages rather than respondent proportions. The design phase mapped the five RADEC stages onto the three SLM stages to produce an alignment matrix and a product blueprint that has not yet been validated or tested. **Findings:** Literacy policies existed but were rarely operationalized: only four of eight schools had an SLM implementation guide, instruction questions were predominantly literal, and expository writing modeling appeared in three schools. Teachers and students each expressed a strong need for an integrative design (85.0% on the corresponding teacher and student indicators), while students' writing habits scored lowest (56.0%). These needs directed an alignment matrix linking Read-Answer-Discuss-Explain-Create to the habituation, development, and learning stages of SLM, and a six-component product blueprint for reading and writing instruction. **Research Implications:** The study offers a traceable procedure for translating school literacy policy into classroom design, with an alignment matrix teachers can use to integrate literacy programs into subject instruction, although the design remains to be validated and tested in classrooms. **Originality:** Few studies document a needs-based pathway from analysis to learning design that aligns RADEC with SLM for elementary literacy.



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INTRODUCTION

Reading comprehension and writing are the foundations on which later academic learning rests, and their development in elementary school determines whether students can participate fully in a literate society (OECD, 2023). Learning to read, however, is not a single achievement but a gradual process in which children integrate word recognition with language comprehension and then extend this integration across increasingly complex texts (Castles et al., 2018). Contemporary reading science goes further, arguing that competent reading depends on the coordination of word-level skills, higher order thinking, and motivation, so instruction that addresses only one component is unlikely to be sufficient (Duke & Cartwright, 2021). Writing imposes a similar burden, because composing an expository text requires young writers to manage content knowledge, text structure, and vocabulary simultaneously, a demand that is especially heavy for novices (Datchuk et al., 2021). When these foundational abilities are not firmly established in the primary grades, the consequences accumulate across subjects and school levels, which makes elementary literacy instruction a strategic rather than a merely technical concern.

Indonesian students illustrate this problem in stark numbers. In PISA 2022, Indonesian fifteen-year-olds achieved a mean reading score of 359, far below the OECD average of 476, and most of them failed to reach the basic proficiency level that signals readiness for further learning (OECD, 2023). Although PISA measures adolescents, its results point backward to the quality of early literacy education, since comprehension difficulties that begin in elementary school rarely disappear by the end of secondary schooling (Duke & Cartwright, 2021). Addressing the national reading crisis therefore demands serious attention to what happens in elementary classrooms, where reading habits are formed and where writing instruction can either cultivate or suppress students' willingness to express ideas in text (Graham et al., 2012).

The Indonesian government has responded with a national policy framework. In 2015 the Ministry of Education and Culture launched the School Literacy Movement (SLM; Gerakan Literasi Sekolah in Indonesian), which obliges schools to build a literate ecosystem through the provision of reading materials, literacy activities, and a school literacy team (Kemendikbud, 2016). The movement organizes its activities into three stages: habituation, in which students read voluntarily and routinely; development, in which reading is followed by responding activities; and learning, in which literacy strategies are applied to achieve curriculum objectives in every subject (Kemendikbud, 2016). The learning stage is the point where the SLM was intended to leave the domain of extracurricular routine and enter the mainstream of classroom instruction, because it is there that literacy becomes a tool for thinking rather than an activity performed for its own sake.

Evidence from the field, however, shows that this intention has only partially materialized. A survey of state elementary schools in Sleman district found that the SLM had been implemented in the good category in only 44% of schools, with weaknesses concentrated in facilities, the literacy team, and public involvement (Wahyuningsih & Mustadi, 2019). Case studies in other regions describe programs that are dominated by routine fifteen-minute reading sessions before lessons and are constrained by limited time and by students' low interest in visiting the library (Pujiati et al., 2022). The recurring picture is one of strong activity at the habituation stage and weak movement toward the development and learning stages, so that the reading culture cultivated by the SLM has not been systematically converted into curriculum-linked literacy learning.

The conversion depends heavily on the quality of reading and writing instruction inside the classroom. Reading comprehension is not an undifferentiated ability; Barrett's taxonomy distinguishes literal recognition, reorganization, inferential comprehension, evaluation, and appreciation, and assessments that ignore these levels can conceal where students actually struggle (Yuliawati et al., 2026). Because the level of teacher questioning largely determines how deeply students process text, classrooms in which questions remain at the literal level give students little opportunity to practice inferential and evaluative thinking (Krathwohl, 2002; Peterson & Taylor, 2012). Conversely, structured discussion around texts has been shown by meta-analysis to improve comprehension more than instruction that leaves students passive (Murphy et al., 2009), and instruction that deliberately fosters engagement alongside comprehension produces stronger reading growth (Guthrie et al., 2012). These findings imply that literacy lessons should be engineered so that students read with a purpose, respond to challenging questions, talk about what they understand, and reflect on their own comprehension.

Writing instruction deserves the same kind of engineering. Meta-analyses of writing interventions demonstrate that explicit instruction, including strategy instruction and text structure teaching, improves the quality of students' writing across grade levels (Graham et al., 2012; Graham & Perin, 2007), and that the benefits vary with the focus of instruction, so the choice of instructional emphasis matters (Kim et al., 2020). For expository and informational genres, teaching students to recognize and use text structures strengthens both their reading and their writing of such texts (Bogaerds-Hazenberg et al., 2021; Hebert et al., 2018). In Indonesian elementary classrooms, however, producing explanatory or expository texts remains a recurring difficulty (F. Hidayat, 2023), which suggests that the genre-based and strategy-based approaches validated internationally have not yet become routine practice. A design that connects reading comprehension work with guided production of expository texts is therefore a pressing need rather than an optional refinement.

One instructional model that offers a structure for meeting this need is RADEC, Read, Answer, Discuss, Explain, and Create, developed by Wahyu Sopandi to habituate students to higher order thinking (Sopandi, 2017a). In this model, students first read learning materials independently (Read), then answer pre-learning questions individually (Answer), negotiate their answers in small groups (Discuss), present and verify their understanding with teacher confirmation (Explain), and finally produce a creative work that consolidates the whole cycle (Create) (Sopandi, 2017a, 2017b, 2019; Sopandi et al., 2021). Because a single set of pre-learning questions is carried through the cycle, students experience their initial answers as conjectures to be tested, a design feature that positions RADEC within constructivist and cooperative traditions while giving every stage a clear cognitive function (Handayani, Sopandi, Syaodih, Setiawan, et al., 2019a). The model is also consistent with the reading science reviewed above, since its Read stage provides the

purposeful contact with text that builds engagement, and its Discuss and Explain stages supply the talk around text that deepens comprehension.

The empirical record of RADEC, though still young, is growing across subjects and educational levels. In elementary science, RADEC has been found to promote higher order thinking about the water cycle (Handayani, Sopandi, Syaodih, Suhendra, et al., 2019), to strengthen students' participation and collaboration skills (Hanum et al., 2023), and to support critical thinking in integrated science learning (Fiteriani et al., 2025), including in technology-enhanced variants (Maisarah & Rusnilawati, 2026). At the level of teaching materials, RADEC-based materials developed with metacognitive strategies have improved elementary students' critical and creative thinking (Jumanto et al., 2024), and a HOTS-oriented RADEC design raised critical thinking in Islamic elementary schools (Maulidnawati et al., 2026). Teachers also benefit from the model, since workshops on RADEC implementation have improved the pedagogic competence of elementary teachers (Handayani, Sopandi, Syaodih, Setiawan, et al., 2019a; Handayani, Sopandi, Syaodih, Suhendra, et al., 2019). These studies establish RADEC as a workable engine for higher order learning, yet most of them were conducted in science domains, leaving its potential for language and literacy instruction comparatively underexplored.

Recent studies have begun to close that gap. RADEC has been applied to reading comprehension in elementary classrooms (Fatimah et al., 2024), to the reading of explanatory texts in fifth grade (Idris et al., 2024), and to explanatory text writing, where the model improved students' ability to organize ideas and compose complete texts (T. Hidayat & Purwokerto, 2019). A combination of the critical multiliteration approach with RADEC also improved elementary students' writing ability (Setiawan et al., 2020). These results are encouraging because they align with the logic of the model: the Read stage is a natural vehicle for the reading culture promoted by the SLM, while the Create stage, in which students produce a text or other work, can carry the writing outcomes expected in the movement's learning stage. What remains missing, however, is an explicit articulation of this alignment. To the authors' knowledge, and based on the literature reviewed here, no published study has yet mapped the syntax of RADEC onto the three stages of the SLM, nor documented a design in which literacy outcomes such as reading comprehension and expository writing are targeted through that mapping from the outset.

Two broader gaps in the literature reinforce the need for such a design study. First, research on the SLM has largely been descriptive, reporting implementation conditions and obstacles rather than producing empirically grounded learning designs that teachers can adopt. Second, even where RADEC has been applied to literacy, the designs were not derived from a systematic analysis of teacher and student needs in the target setting, although instructional design frameworks insist that analysis of needs is the point of departure for any sound intervention (Branch, 2009), and design-based research treats documented needs and iterative refinement as the sources of both practical artifacts and reusable design knowledge (Anderson & Shattuck, 2012; Plomp & Nieveen, 2013). Teachers who wish to realize the learning stage of the SLM through RADEC are therefore left without a design that reflects the actual conditions of their schools, the comprehension levels of their students, or their own instructional constraints.

This study addresses those gaps by reporting the first two phases of a design study for elementary literacy. Its objectives were twofold: first, to analyze the needs of teachers and fifth-grade students for a learning design that integrates RADEC with the SLM to develop reading comprehension and expository writing; and second, to formulate the resulting RADEC-SLM learning design, comprising a syntax alignment matrix and a product blueprint, grounded in the findings of the needs analysis.

METHOD

Research Design

This study employed an educational design research approach conducted through the analysis and design phases of the ADDIE model (Branch, 2009). Educational design research is appropriate when the aim is to produce both a practical artifact and design knowledge grounded in a real educational context (Plomp & Nieveen, 2013), and its value for literacy research has been demonstrated in diverse settings (Anderson & Shattuck, 2012). In this study, educational design research is treated as the broader methodological orientation, while the ADDIE framework provides the phase structure that organizes the work, and only its analysis and design phases were carried out. The study deliberately reports the first two phases as an integrated pathway, because the needs analysis supplied the evidence base from which every design decision was derived. The later phases of the ADDIE cycle, namely development, implementation, and evaluation, are reported separately as the validation and effectiveness of the resulting design are beyond the scope of this article.

Participants and Context

The study was conducted in Purwakarta Regency, West Java, Indonesia, in eight elementary schools selected purposively to represent the school types that commonly serve fifth-grade students in the regency, namely two state elementary schools, two private elementary schools, two state Islamic elementary schools, and two private Islamic elementary schools. Schools were selected because they had adopted the School Literacy Movement and were willing to participate in a design study for literacy instruction. The participants consisted of eight fifth-grade teachers, one from each school, and 224 fifth-grade students who completed the student questionnaire. This is a small, contextually bounded sample, in that the eight teachers represent the instructional perspective of one school each, while the 224 students provide the learner perspective. In addition, 17 literacy-related documents from the eight schools were collected, including school literacy implementation guides, literacy activity records, and lesson documents.

Instruments

Four data collection instruments were developed for the analysis phase, each grounded in the conceptual framework of the School Literacy Movement (Kemendikbud, 2016), the levels of reading comprehension described by Barrett's taxonomy, and the characteristics of expository writing. The first instrument was a document study sheet that recorded the availability and content of school literacy documents and the extent to which literacy activities were linked to classroom instruction. The sheet organized the documents into four groups, namely curriculum and instructional tools, SLM infrastructure, student achievement documents, and school literacy programs. Across the eight schools, 17 documents were reviewed, and each was coded both for its availability and for the degree to which it connected literacy activities with instruction.

The second instrument was a classroom observation sheet comprising 22 observable aspects grouped into five sections, namely the opening of the lesson, reading comprehension instruction, expository writing instruction, classroom literacy activities, and student engagement. The observed aspects concerned the cognitive level of the comprehension questions posed by teachers, following the levels of Barrett's taxonomy, the modeling and staged guidance of expository writing, the presence of the fifteen-minute reading routine and its integration with lesson content, and the participation of students. The researcher acted as a non-participant observer and did not intervene in the lessons. Each of the eight participating teachers was observed during one *Bahasa Indonesia* lesson of approximately 70 minutes.

The third instrument was a semi-structured interview guide for teachers, containing 19 open questions organized around five themes, namely teachers' understanding of the SLM, the implementation of its three stages in their schools, classroom literacy practices, obstacles encountered, and perceived needs for an integrative learning design. Interviews were conducted individually with the eight fifth-grade teachers, lasted approximately 40 minutes each, were audio-recorded with the consent of the participants, and were transcribed verbatim. Interviewees were coded from G1 to G8 to preserve anonymity.

The fourth instrument consisted of teacher and student questionnaires, each combining Likert-type statements with multiple-choice and open-ended items. The teacher questionnaire contained 16 Likert-type statements distributed across three indicators, namely the conditions of reading and writing instruction with 7 items, the implementation of the SLM with 4 items, and constraints and the need for development with 5 items, together with three multiple-choice items and three open-ended items. The student questionnaire contained 15 Likert-type statements distributed across four indicators, namely reading habits with 4 items, writing habits with 4 items, school literacy activities with 3 items, and learning needs with 4 items, together with three multiple-choice items and three open-ended items. Both questionnaires used the same four-point response scale with no neutral midpoint, anchored as 1 for strongly disagree, 2 for disagree, 3 for agree, and 4 for strongly agree. The student version used simplified wording appropriate to fifth-grade readers.

Each Likert-type indicator was summarized as a composite indicator percentage. The mean score of the items belonging to an indicator was divided by the maximum item score of four and multiplied by one hundred, so that a mean item score of 3.40 corresponds to 85.0 percent. The resulting percentages were interpreted against a conventional interval in which 41.0 to 60.0 percent represents a moderate level, 61.0 to 80.0 percent a high level, and 81.0 to 100.0 percent a very high level. Because the teacher questionnaire was completed by only eight teachers, these values are reported descriptively as evidence of need and are not interpreted as estimates for a wider population.

Validity and Reliability. Content validity was established through review by the supervising professors, who examined the alignment of each item with its indicator, the clarity of the item wording, and the appropriateness of the language for fifth-grade respondents. Internal consistency of the Likert-type scales was estimated using Cronbach's alpha, and a coefficient of .70 was set as the acceptance criterion (Tavakol & Dennick, 2011). Both the teacher

questionnaire and the student questionnaire exceeded this criterion in the field trial, and every item was therefore retained in the final versions of the instruments.

Data Collection and Analysis

Data collection followed a concurrent procedure during the analysis phase. Document study and classroom observation were carried out first, followed by the teacher interviews and the administration of the questionnaires. All data were collected in the participating schools during the analysis phase of the study.

Qualitative data from the document study, the observations, and the interviews were analyzed using the interactive model of qualitative analysis, which comprises data condensation, data display, and conclusion drawing and verification (Miles et al., 2014). Data condensation began during collection through selective note-taking and continued with the thematic coding of interview transcripts and field notes. Codes were grouped into broader categories aligned with the focus of the study, and the categories were consolidated into themes. Data that were not relevant to the research questions were set aside, while pertinent data were retained for further analysis. Data were then displayed as descriptive narratives, matrices, and charts, which allowed patterns and relationships across the schools to be identified. Finally, conclusions were drawn and verified against the full body of evidence.

The trustworthiness of the qualitative findings was addressed through several procedures (Lincoln & Guba, 1985). Credibility was pursued through triangulation of sources, in that documents, observations, and interviews were compared against one another, and through member checking, in which the teachers reviewed the summarized interpretations of their interviews. Transferability was supported by a detailed description of the participating school contexts. Dependability and confirmability were supported by an audit trail that recorded the stages of data collection and analysis. Findings from the three qualitative sources were triangulated to identify convergent patterns of literacy practice and need.

Questionnaire responses were analyzed descriptively by calculating the composite indicator percentage for each indicator, as described above, and these percentages were then compared across indicators to identify the areas of greatest need. Because each indicator was computed from several items, the resulting value represents a composite indicator percentage rather than the proportion of respondents agreeing with a single statement. Because the teacher questionnaire was completed by only eight teachers, these values are interpreted descriptively as an indication of need and not as inferential findings.

Design Procedure

The design phase converted the needs analysis findings into a learning design through four steps. First, the converging findings were synthesized into a set of design principles stating what the RADEC-SLM design had to accomplish in the participating context. Second, the syntax of RADEC, consisting of Read, Answer, Discuss, Explain, and Create (Sopandi, 2017b), was mapped onto the three stages of the SLM, namely habituation, development, and learning, to produce an alignment matrix that became the structural core of the design. Third, the components of the design were specified as a product blueprint covering a teacher implementation guide, six lesson plans arranged in two blocks of three meetings for reading comprehension and expository writing respectively, six student worksheets, a reading comprehension assessment based on the four levels of Barrett's taxonomy, a six-aspect expository writing rubric, and printed literacy media. The lesson plans and worksheets were developed around the theme of the school environment, with the first block devoted to leveled reading comprehension and the second block to guided production of expository texts. Fourth, the alignment matrix and blueprint were reviewed iteratively with the supervising professors to verify that every design decision responded to an identified need before the development phase was undertaken.

RESULTS

The results are presented in two parts corresponding to the two research objectives: the findings of the needs analysis across the eight schools, and the RADEC-SLM learning design formulated on the basis of those findings. Needs Analysis Findings The document study examined 17 literacy-related documents from the eight schools. As summarized in Table 1, the availability of formal SLM infrastructure was uneven. Implementation guides were held by only four schools, written literacy programs by five schools, literacy activity books by three schools, and classroom reading corners by seven schools. Lesson documents and assessment instruments were available in seven schools, yet none of the lesson documents had integrated SLM activities into the learning sequence. The school-level literacy infrastructure therefore had not been translated into instructional planning.

Table 1. Availability of literacy documents in the eight schools (document study)

Document group	Key document	Schools (n = 8)	Percentage
Curriculum and instructional tools	Teaching modules or lesson plans	7	87.5
	Assessment instruments	7	87.5
SLM infrastructure	SLM implementation guide	4	50.0
	Literacy activity books or cards	3	37.5
	Classroom reading corners	7	87.5
Student achievement documents	Collections of student work	6	75.0
School profile	Written literacy program	5	62.5

Classroom observation confirmed the gap between infrastructure and practice (Table 2). Literal-level questions appeared in all eight lessons, whereas inferential and evaluative questions were posed in only three and two schools respectively. A fifteen-minute reading routine ran in seven schools, but in only three was the reading connected to the subject matter. Modeling of expository writing was observed in three schools, and a complete guided writing process, from planning through revision, in only two.

Table 2. Literacy practices observed in the eight classrooms (observation)

Observed practice	Schools (n = 8)	Percentage
Literal-level comprehension questions	8	100.0
Inferential-level questions	3	37.5
Evaluative-level questions	2	25.0
Fifteen-minute reading routine	7	87.5
Reading activity connected to lesson content	3	37.5
Modeling of expository writing	3	37.5
Complete guided writing process	2	25.0

The teacher interviews clarified why literacy stopped at these routines. Across the five interview themes, teachers were familiar with the SLM and its expected activities, yet they described the integration of literacy into instruction as the most difficult part. The fifteen-minute reading session was managed as a separate activity, ready-to-use designs connecting reading materials to curriculum content were lacking, and expository writing was rarely taught through modeling and staged guidance. Literacy time was also easily displaced by subject-matter demands, and students' engagement with books depended heavily on teacher initiative. The interviews therefore revealed a demand not for more literacy activities, but for a learning design that carries literacy into regular instruction.

The questionnaires quantified this demand (Table 3). The highest teacher indicator was constraints and the need for development at 85.0%, followed by the conditions of reading and writing instruction at 78.0% and the implementation of the SLM at 72.0%. Among students, learning needs reached 85.0%, school literacy activities 73.0%, and reading habits 68.0%. The lowest student indicator was writing habits at 56.0%, confirming that writing was the weakest area of the literacy profile reported by the students themselves. These values are composite indicator percentages derived from multiple questionnaire items rather than proportions of respondents, so they should be read as descriptive evidence of need. The figure of 85.0% appears for both the teacher indicator of constraints and need for development and the student indicator of learning needs; the two values are separate indicator scores from different instruments and are not a combined statistic.

Table 3. Questionnaire results by respondent group

Respondents	Indicator	Percentage	Category
Teachers (n = 8)	Conditions of reading and writing instruction	78.0	High
	Implementation of the SLM	72.0	High
	Constraints and need for development	85.0	Very high
Students (n = 224)	Reading habits	68.0	High
	Writing habits	56.0	Moderate
	School literacy activities	73.0	High
	Learning needs	85.0	Very high

Taken together, the four data sources converged on a consistent conclusion: the schools had the structural beginnings of a literate ecosystem, but their literacy practices stopped at habituation, their comprehension work remained largely literal, their writing instruction lacked systematic modeling, and both teachers and students expressed a strong need for a design that integrates the SLM with classroom learning.

The RADEC-SLM Learning Design

The design phase translated these needs into a learning design through design principles, a syntax alignment matrix, and a product blueprint. Four design principles were derived from the findings. DP1 converts the existing reading routine into purposeful reading so that the habituation stage feeds directly into content learning. DP2 raises comprehension above the literal level by embedding inferential and evaluative questions in every lesson. DP3 makes expository writing an explicit and scaffolded outcome rather than an incidental task. DP4 preserves the school literacy ecosystem, including reading corners and literacy time, while connecting it to the curriculum.

The structural core of the design is the alignment between the RADEC syntax and the three SLM stages (Table 4). The Read stage extends the habituation stage by directing routine reading toward learning materials and leveled expository texts. The Answer, Discuss, and Explain stages correspond to the development stage, because they turn reading into responding: students answer pre-learning questions individually, negotiate their answers with peers, and present their understanding for verification. The Create stage carries the learning stage, since students produce expository texts that consolidate the cycle. Through this mapping, every RADEC stage performs a literacy function and every SLM stage is operationalized inside the lesson structure.

Table 4. Alignment of the RADEC syntax with the three stages of the SLM

SLM stage	RADEC stages	Literacy function in the design
Habituation	Read	Routine reading is directed toward learning materials and leveled expository texts
Development	Answer, Discuss, Explain	Reading is converted into responding through pre-learning answers, peer negotiation, and oral verification
Learning	Create	Expository texts are produced as the consolidating outcome of the cycle

The product blueprint specifies the six components of the design. The first is a teacher implementation guide explaining the alignment matrix, the RADEC syntax, and the procedures for managing literacy time. The second and third components are six lesson plans and six student worksheets arranged in two blocks: the first three meetings develop reading comprehension using leveled expository texts, while the second three guide students through the staged production of expository writing, both developed around the theme of the school environment. The fourth component is a reading comprehension assessment with eight items distributed across the four levels of Barrett's taxonomy, and the fifth is a six-aspect analytic rubric for expository writing. The sixth component consists of printed literacy media, including text structure charts, vocabulary cards, posters, and four model expository texts for modeling and discussion. Figure 1 traces the whole path from the needs analysis to these products, showing how each design decision responds to a verified finding and how the resulting design stands at the gate of the development phase of the ADDIE cycle. The alignment matrix and the six components described above are conceptual design-stage outputs; they have not yet been validated by experts, tested for readability, or implemented in classrooms, and they are therefore presented as a design proposition rather than as a validated instructional model.

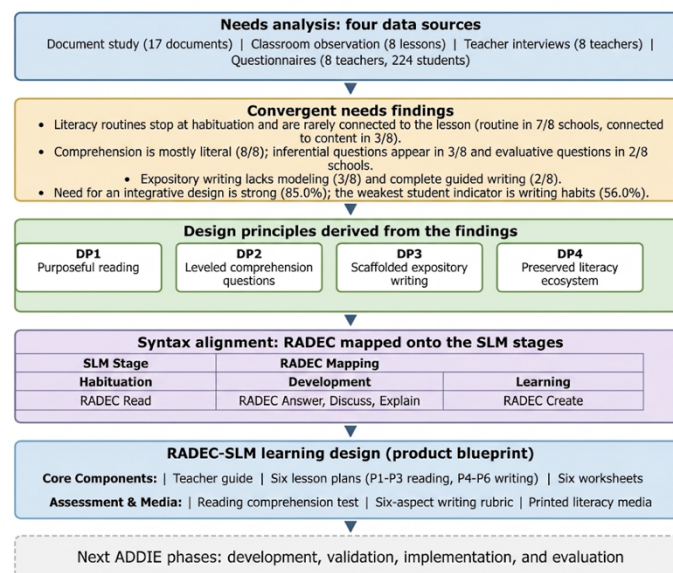


Figure 1. Flow from the needs analysis to the RADEC-SLM learning design

DISCUSSION

The convergence of the four data sources points to a single structural problem: the School Literacy Movement in the participating schools has not yet reached the learning stage that the policy assigns to it. The schools possess the visible furniture of a literate ecosystem, such as reading corners and literacy time, yet these elements operate as parallel routines rather than as instruments of instruction. This pattern is not unique to Purwakarta. Studies in other regions have reported SLM implementation that remains uneven in quality, with many schools still consolidating the habituation stage and struggling to connect literacy activities to curricular demands (Pujiati et al., 2022; Wahyuningsih & Mustadi, 2019). What the present findings add is a more precise diagnosis: the gap is located not in the availability of literacy infrastructure, but in the absence of an instructional design that can carry the movement into the lesson sequence.

The classroom observation data explain why the habituation stage dominates. Comprehension questions in all eight observed lessons operated at the literal level, while inferential and evaluative questions were rare. This mirrors the wider picture of Indonesian students' reading performance, in which success on explicit information is not matched by success on tasks that require interpretation and critical evaluation (OECD, 2023). Elementary students' comprehension is in fact weakest precisely at the inferential and evaluative levels (Yuliawati et al., 2026). Reading science treats such outcomes as the predictable result of instruction that emphasizes word accuracy and surface recall over the active construction of meaning (Castles et al., 2018), and models of reading comprehension stress that deep comprehension requires deliberate practice with texts at multiple levels of representation (Duke & Cartwright, 2021). The observed questioning pattern suggests that teachers have not yet been equipped with a routine for lifting questions above retrieval, which is why the second design principle embeds inferential and evaluative questions into every lesson rather than leaving them to teacher discretion.

The writing findings carry a similar implication. Expository writing was rarely modeled, and a complete guided writing process was observed in only two schools, while students themselves reported writing habits as their weakest area. This pattern aligns with meta-analytic evidence that writing performance improves when instruction provides explicit models, scaffolds, and structured practice (Graham & Perin, 2007), and with evidence that writing about texts strengthens reading comprehension when the two are taught in an integrated sequence (Graham et al., 2012; Hebert et al., 2018). Reviews of reading-writing integration similarly conclude that combining the two domains produces stronger outcomes than teaching them separately (Kim et al., 2020). In the participating schools, however, writing appeared as an occasional assignment rather than a systematically scaffolded outcome, which explains the formulation of the third design principle and the placement of expository writing as the culminating product of the learning design.

The design itself responds to the diagnosis by selecting RADEC as the instructional vehicle. RADEC organizes learning around reading, responding, discussing, explaining, and creating, a syntax that obliges students to interact with text before instruction and to demonstrate understanding through oral and written production (Sopandi, 2017b). Empirical studies have reported favorable responses and learning outcomes when the model is applied across elementary subjects (Handayani, Sopandi, Syaodih, Suhendra, et al., 2019; Pratama, 2021), including studies showing its feasibility in literacy-oriented settings (Fatimah et al., 2024; Hanum et al., 2023). What the present study contributes is not another demonstration of the model's effectiveness, but a specification of how its stages can be aligned with the three stages of the SLM so that a national literacy policy is translated into concrete classroom moves. In this alignment, Read operationalizes the habituation stage by directing the fifteen-minute routine toward learning materials, Answer, Discuss, and Explain carry the development stage by converting reading into individual response, peer negotiation, and oral verification, and Create realizes the learning stage by requiring students to produce expository texts as the outcome of each cycle.

This alignment matrix is the main design contribution of the study. Earlier studies of the SLM have largely been descriptive, documenting implementation conditions and obstacles without proposing a replicable instructional solution (Pujiati et al., 2022; Wahyuningsih & Mustadi, 2019). Design-based accounts of RADEC, in contrast, have focused on the model's syntax and its effects in particular subjects, with less attention to how a needs analysis should feed into the selection and arrangement of learning products (Handayani, Sopandi, Syaodih, Setiawan, et al., 2019b; Sopandi, 2017b). By following the analysis-design sequence of the ADDIE framework (Branch, 2009) within an educational design research orientation (Anderson & Shattuck, 2012; Plomp & Nieveen, 2013), this study shows how documented needs, such as literal-only questioning, unmodeled writing, and disconnected literacy routines, can be translated one by one into design principles and then into tangible components: lesson plans, worksheets, assessments, and media. The traceable link between evidence and artifact is what distinguishes a needs-based design from a generic application of a model. It should be emphasized that the argument developed here concerns the internal coherence of the design rather than its instructional effectiveness, because conceptual compatibility between the RADEC syntax and the SLM stages does not by itself constitute evidence that the design improves students' reading or writing.

The practical implications follow directly from that traceable link. For teachers, the matrix offers a concrete answer to the difficulty they voiced in interviews, namely how to connect reading materials to curriculum content without sacrificing subject-matter time. For schools, the blueprint preserves the existing literacy ecosystem, such as reading corners and the fifteen-minute routine, and upgrades its function instead of replacing it. For researchers, the six product components provide a ready object for the subsequent phases of the ADDIE cycle, in which expert validation, readability testing, classroom implementation, and effectiveness measurement can be conducted against instruments developed for that purpose.

Several limitations should be acknowledged. The study covers only the analysis and design phases of ADDIE; the products have not yet been validated by experts, tested for readability, or implemented in classrooms, so claims about their practicality and effectiveness cannot yet be made. The empirical basis was restricted to eight purposively selected schools and 224 fifth-grade students in one regency, which limits generalization to other contexts and grade levels. The questionnaire and interview data are self-reports and may overstate or understate actual practice, although triangulation with document study and direct observation mitigates this risk. The instruments were reviewed by supervising professors, but a formal validation procedure, including experts' assessment of content validity, was not documented, and the number of items, the response scale, and the reliability of the questionnaires require fuller reporting. Future research should therefore proceed to the development and implementation phases, and should examine how the alignment between the RADEC syntax and the SLM stages functions when the design is enacted by teachers under ordinary classroom conditions.

CONCLUSION

This study set out to identify the literacy conditions and learning needs of elementary schools implementing the School Literacy Movement and to translate those needs into a learning design. The needs analysis showed that the movement remained at the habituation stage: literacy infrastructure was available, but instruction stayed at literal comprehension, expository writing was rarely modeled or scaffolded, and teachers and students expressed a strong need for a design that connects literacy activities to regular learning. On the basis of these verified needs, the study formulated the RADEC-SLM learning design, which consists of four design principles, a syntax alignment matrix that operationalizes the habituation, development, and learning stages of the movement through the Read, Answer, Discuss, Explain, and Create stages of RADEC, and a product blueprint comprising a teacher implementation guide, six lesson plans, six student worksheets, a reading comprehension assessment, an analytic writing rubric, and printed literacy media. Each component responds to a documented finding, so the design offers a traceable path from evidence to artifact. The principal contribution of the study is therefore the mechanism itself, namely the documented pathway along which contextual needs were converted into design decisions and each stage of the movement was assigned a specific function within the lesson cycle. Because the study covers only the analysis and design phases of the ADDIE framework, the design is now positioned at the development gate, where expert validation, readability testing, classroom implementation, and effectiveness measurement remain to be conducted. Future studies should carry out these phases and examine how the alignment matrix functions under ordinary classroom conditions. Because the needs analysis was bounded by eight purposively selected schools in a single regency, the transferability of the design to other contexts also remains an empirical question rather than a settled claim. For practitioners, the design provides a concrete mechanism for moving the School Literacy Movement from routine activities into the learning stage without displacing subject-matter instruction.

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The authors contributed to the study as follows. AN: conceptualization, methodology, investigation, formal analysis, and writing of the original draft. DS: supervision, validation, and review and editing of the manuscript. WS: supervision, conceptualization, and review and editing of the manuscript. All authors have read and approved the final version of the manuscript.

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The authors used a generative AI tool during the preparation of this work for drafting assistance, reference verification, and English language refinement. After using the tool, the authors thoroughly reviewed and edited the content as needed and take full responsibility for the content of the publication.

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