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# Contextualizing Literacy Instruction in Elementary Schools: Enhancing Student Engagement through Real-World Engaged Active Learning (REAL)

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**Abstract**
This study investigates the effectiveness of Real-World Engaged Active Learning (REAL) in enhancing literacy comprehension and student engagement in a rural Indonesian elementary school. Employing a one-group pretest and posttest design, the research involved 22 fifth-grade students from SD Negeri 60 Tondon, South Sulawesi. The intervention was implemented over eight weeks through contextual reading materials, authentic tasks, collaborative activities, and teacher scaffolding. Reading comprehension was assessed across five aspects literal, inferential, critical, applicative, and creative, while engagement was measured through behavioral, emotional, and cognitive dimensions. Paired-samples t-test results revealed significant improvements in all comprehension aspects ($p < 0.001$), with very large effect sizes (Cohen's $d = 2.74–6.82$). Notably, literal and inferential comprehension achieved exceptionally high gains, while critical, applicative, and creative skills also improved substantially. Student engagement rose to moderately high, high levels across dimensions, with cognitive engagement showing the strongest growth. The findings indicate that REAL fosters both deep understanding and multidimensional engagement by linking literacy tasks to students' cultural and real-life contexts. This study contributes to the theory of contextualized literacy and active learning by evidencing that sustained, culturally grounded inquiry can simultaneously elevate comprehension and behavioral, emotional, and cognitive engagement in resource-limited settings. Practically, the results provide actionable steps for teachers to implement REAL, including adapting local texts, designing authentic community-based tasks, facilitating collaboration, and scaffolding higher-order thinking. These insights support policy efforts such as the Merdeka Belajar reform and offer a scalable model to address literacy gaps in underserved areas.

**Keywords:** Contextualized_literacy; Real-World_Engaged_Active_Learning; Student_engagement; Reading_comprehension; Rural_education

## 1. Introduction

Literacy remains a cornerstone of educational achievement and social participation in the twenty-first century. Beyond decoding and comprehension, contemporary literacy entails the ability to interpret multimodal texts, critically engage with information, and apply knowledge in authentic contexts [1]. As economies and societies become increasingly knowledge-driven, early literacy development strongly predicts later academic success, social mobility, and life opportunities [2]. International large-scale assessments such as the Programme for International Student Assessment (PISA) reveal that students' ability to apply reading skills to real-life contexts is tightly linked to higher-order thinking and problem-solving [3]. Yet, despite the global emphasis on literacy as a foundation for lifelong learning, many elementary schools continue to rely on decontextualized, text-centric instruction that disengages students from meaningful learning experiences [4].

To counteract this disengagement, educational research increasingly advocates for pedagogical designs that integrate authentic contexts, active inquiry, and social collaboration. Approaches such as project-based learning [5], inquiry-based literacy instruction [6], and experiential learning models [7] show promise in enhancing student motivation and deep

comprehension. Studies suggest that students are more likely to develop sustained literacy habits when they participate in real-world tasks, negotiate meaning collaboratively, and perceive reading and writing as purposeful [6]. These principles align with constructivist and sociocultural perspectives, which emphasize that knowledge is co-constructed through interaction with peers, teachers, and culturally relevant texts [8]. However, operationalizing these theories in daily classroom literacy practices remains challenging, especially in resource-limited contexts.

Despite advances in literacy pedagogy, global literacy outcomes remain uneven. [9] reports that roughly 70% of children in low- and middle-income countries cannot read and understand a simple text by age 10. Even in countries with rising enrollment rates, learning poverty persists due to rote instructional practices, insufficient teacher professional development, and limited integration of meaningful learning contexts [10]. Many classrooms still emphasize decoding and grammar drills while neglecting critical reading, functional writing, and engagement with students lived experiences [11]. This gap underscores the need for contextualized literacy instruction—approaches that leverage local realities, student interests, and community-based knowledge to make reading and writing meaningful and relevant.

Indonesia exemplifies this challenge. While the government has implemented the Merdeka Belajar curriculum reform to foster student-centered learning, literacy scores remain concerning. The 2018 PISA assessment placed Indonesia significantly below the OECD average in reading, with only 30% of students achieving minimum proficiency [4]. In rural and underserved areas, the gap widens due to limited instructional resources, traditional teacher-centered practices, and low student motivation [12]. SD Negeri 60 Tondon, located in Kabupaten Enrekang, South Sulawesi, reflects these systemic issues. Teachers often rely on textbook-driven, decontextualized lessons, while students show low enthusiasm for reading and writing activities. Informal classroom observations reveal that students struggle to connect literacy tasks with real-world applications, leading to disengagement and superficial learning. These conditions call for research-driven interventions that contextualize literacy teaching in ways that are culturally and socially meaningful for these learners.

International scholarship increasingly recommends Real-World Engaged Active Learning (REAL) as a promising framework to bridge literacy instruction with students' lived experiences. REAL integrates principles of experiential learning, authentic assessment, and inquiry-based pedagogy to encourage students to actively construct knowledge through meaningful tasks [13]. REAL frameworks move beyond simulated activities by embedding literacy into purposeful projects—such as writing letters to local leaders, analyzing community issues, or designing informational campaigns. Such approaches have been shown to enhance reading comprehension, critical thinking, and motivation, particularly when combined with scaffolded teacher guidance and collaborative learning structures [14].

Within the Indonesian elementary school context, REAL-based literacy strategies remain underexplored yet potentially transformative. Studies on localized project-based literacy interventions show improved engagement and comprehension when tasks are grounded in students' cultural and social contexts [15]. Research by [16] highlights that contextual learning—integrating local knowledge, real-life scenarios, and interactive inquiry—boosts reading interest and writing fluency in rural schools. Similarly, peer collaboration and

multimodal resources have been found to foster deeper comprehension and authentic communication [17]. However, most existing interventions remain small-scale, lack robust design frameworks, or fail to fully embed real-world relevance into sustained literacy practices. This study responds by developing and implementing a REAL-based approach tailored to the needs of SD Negeri 60 Tondon, leveraging community knowledge, local issues, and participatory activities to improve literacy engagement.

Prior studies confirm the promise of contextual and active literacy instruction but also highlight persistent gaps. First, while project-based and authentic tasks have been widely researched in Western and urban contexts [11]; [5], their adaptation in rural Indonesian elementary schools is rarely documented. Second, existing studies often measure surface outcomes—such as short-term motivation or isolated comprehension gains—without examining sustained engagement and deeper literacy skills [6]. Third, most frameworks stop at integrating local content rather than fully connecting students' literacy practices with real-world problem solving and social participation [13]. Consequently, there is a need for rigorous, contextually grounded research that designs, implements, and evaluates REAL-based literacy instruction in rural Indonesian schools.

This study aims to contextualize literacy instruction in Indonesian elementary schools by designing and implementing a Real-World Engaged Active Learning (REAL) framework. The general objective of this research is to enhance student engagement and literacy outcomes by implementing Real-World Engaged Active Learning in literacy instruction in an elementary school setting. By focusing on SD Negeri 60 Tondon as a case site, this research seeks to generate practical insights for teachers, contribute to literacy pedagogy in rural contexts, and inform policy initiatives aligned with the Merdeka Belajar movement.

In terms of research novelty, this study combines three under-explored dimensions: (1) the degree of *contextual relevance* of reading materials to students' local culture, environment, and lives; (2) the deployment of *active learning strategies* that require students to produce, discuss, and apply texts (not merely receive instruction); and (3) measuring *engagement* in a multidimensional way (behavioral, emotional, cognitive) along with literacy achievement. The hypothesis is that a REAL intervention—contextualized texts + active learning pedagogies + teacher support—will lead to significantly greater student engagement and literacy outcomes (reading comprehension, vocabulary, reading fluency), compared to business-as-usual literacy instruction, in the SD Negeri 60 Tondon context.

## 2. Methodology

### 2.1. Research Design and Participants

This study employed a pre-experimental design with a one-group pretest–posttest design to examine the effectiveness of Real-World Engaged Active Learning (REAL) in enhancing student engagement and literacy skills in elementary school. This design was chosen to allow comparison of literacy and engagement outcomes before and after the intervention within the same group, thus providing initial evidence of the intervention's effectiveness. The participants were 22 fifth-grade students from SD Negeri 60 Tondon, Kabupaten Enrekang, Indonesia. The school is located in a rural area with limited access to literacy resources, and the students demonstrate varying levels of reading proficiency.

### 2.2. Intervention

The intervention in this study utilized the REAL (Real-World Engaged Active Learning) framework, which integrates contextual texts with active learning strategies to improve students' engagement and literacy outcomes. The program was implemented over eight weeks with two literacy sessions per week (90 minutes per session). Each session comprised four core elements: (1) contextual reading materials relevant to students' culture and environment, (2) active learning strategies such as discussions, role-play, and collaborative projects, (3) student-centered activities that connect the texts to real-life experiences, and (4) teacher scaffolding, including guided comprehension, vocabulary enrichment, and facilitation of critical discussions. The intervention framework is illustrated in Figure 1, which depicts the dynamic relationship among the four core components. This visualization emphasizes that REAL-based literacy instruction is designed to bridge academic experiences with students' real-world contexts.

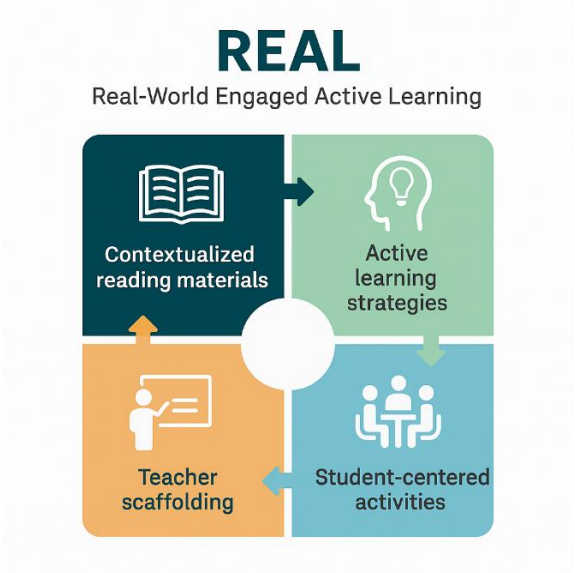


**Figure 1.** REAL (Real-World Engaged Active Learning) Framework in Literacy Intervention

### 2.3. Research Instruments and Procedures

The research instruments comprised three main components. *First*, a Reading Comprehension Test was developed by the researchers based on the national curriculum standards and consisted of 30 items, including multiple-choice and short-answer questions. The test was designed to assess five aspects of reading comprehension: Literal (the ability to understand explicitly stated information), Inferential (the ability to draw conclusions from implicit information), Critical (the ability to evaluate the content of a text logically and argumentatively), Applicative (the ability to connect the text content with real-life contexts), and Creative (the ability to generate new ideas, solutions, or alternative perspectives based on the text). *Second*, a Student Engagement Scale adapted from [18] was used, comprising three engagement dimensions—behavioral, emotional, and cognitive with 15 items rated on a Likert scale. *Third*, a Classroom Observation Sheet was utilized to document students' active participation, collaboration, and engagement throughout the learning process.

The study was conducted in three phases. In the pretest phase, students completed the reading comprehension test and the engagement scale before the intervention began. During the

intervention phase, REAL-based literacy instruction was implemented for eight weeks with two sessions per week, facilitated by the classroom teacher and supported by the researchers. In the posttest phase, students completed the same tests and scales after the intervention, while classroom observations were continuously carried out throughout the implementation process to ensure a comprehensive record of student engagement.

### 2.4. Data Analysis

Quantitative data from the pretest and posttest were analyzed using paired-samples t-tests to determine whether there were statistically significant differences in students' literacy outcomes and engagement after the intervention. Qualitative data from classroom observations were analyzed descriptively to strengthen the evidence regarding patterns of student engagement during the learning process.

## 3. Results and Discussion

### 3.1 Reading Comprehension

A paired-samples *t*-test was conducted to compare students' reading comprehension scores before and after the implementation of Real-World Engaged Active Learning (REAL). The results of the analysis are presented in Table 1.

Table 1. Paired-Samples t-Test Analysis and Effect Size (Cohen's d)

| Aspect | Mean Pre | Mean Post | t (21) | p-value | Cohen's d | Effect Size Interpretation |
|---|---|---|---|---|---|---|
| Literal | 4.50 | 6.23 | 28.06 | <0.001 | 5.98 | Very Large |
| Inferential | 3.32 | 5.23 | 32.00 | <0.001 | 6.82 | Very Large |
| Critical | 2.45 | 4.59 | 14.92 | <0.001 | 3.18 | Very Large |
| Applicative | 2.91 | 4.23 | 12.86 | <0.001 | 2.74 | Very Large |
| Creative | 2.82 | 4.05 | 13.94 | <0.001 | 2.97 | Very Large |

The analysis showed that the average reading comprehension scores of students increased significantly across all aspects after the implementation of the REAL model. The Literal aspect improved from $M = 4.50$ to $M = 6.23$ $(t(21) = 28.06, p < 0.001, d = 5.98)$, while the Inferential aspect rose from $M = 3.32$ to $M = 5.23$ $(t(21) = 32.00, p < 0.001, d = 6.82)$. Significant improvements were also observed in higher-order thinking aspects: Critical ($M = 2.45 \rightarrow 4.59$; $t(21) = 14.92$; $p < 0.001$; $d = 3.18$), Applicative ($M = 2.91 \rightarrow 4.23$; $t(21) = 12.86$; $p < 0.001$; $d = 2.74$), and Creative ($M = 2.82 \rightarrow 4.05$; $t(21) = 13.94$; $p < 0.001$; $d = 2.97$).

The *p* values (< 0.001) across all aspects indicate that the pretest–posttest differences are highly statistically significant. Furthermore, the Cohen's d values far exceed the threshold for a large effect size (0.8); notably, the Literal and Inferential aspects reached 5.98 and 6.82, respectively, demonstrating an extremely strong intervention effect. These findings suggest that the implementation of REAL not only impacts basic literal and inferential comprehension but also substantially enhances higher-order thinking skills (critical, applicative, and creative).

The substantial gains in reading comprehension can be explained by the nature of the REAL model, which emphasizes contextualized texts and real-world learning activities. According to constructivist learning theory [18], knowledge is constructed actively when learners engage with meaningful, culturally relevant content and collaborate to make sense of it. REAL operationalizes this theory by embedding reading materials that are closely related to

students' local environment, culture, and lived experiences, thus making abstract ideas more understandable and memorable.

Recent research also supports the view that contextual and authentic literacy tasks enhance deep comprehension. [19] found that when students read texts grounded in meaningful contexts and discuss them critically, they develop stronger inferential and critical comprehension skills. Similarly, [20] argue that literacy instruction connected to real-world purposes—such as solving community problems or creating functional texts—stimulates higher-order thinking and helps students internalize reading strategies. The present findings, which show very large effect sizes across literal to creative comprehension, align with this theoretical and empirical perspective.

When compared with previous studies in Indonesia, the results extend earlier findings. [15] reported that project-based and localized reading tasks improved rural students' reading interest and comprehension. Likewise [16] demonstrated that contextual learning, which integrates local knowledge and life scenarios, can boost reading fluency and writing confidence. However, both studies focused primarily on short-term motivation or basic comprehension skills. In contrast, the present research shows that a systematic REAL framework, implemented consistently over eight weeks, can produce deep and broad literacy gains, including critical and creative comprehension.

These results suggest that REAL offers a robust model for transforming literacy instruction in rural and resource-limited settings. By combining contextual texts, authentic tasks, active collaboration, and teacher scaffolding, REAL helps bridge the gap between surface-level decoding and deep reading for meaning, application, and creativity. This not only responds to the literacy learning crisis highlighted by [16] and the low PISA reading scores in Indonesia [1] but also provides a practical pathway to support the Merdeka Belajar curriculum's vision of student-centered and meaningful learning.

### 3.2 REAL and Dimensions of Learning Engagement

An analysis of student engagement was conducted to evaluate the impact of Real-World Engaged Active Learning (REAL) on the three dimensions of engagement: behavioral, emotional, and cognitive. Data were collected using a student engagement questionnaire consisting of 15 items on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The descriptive results for each item are presented in Table 2, while the summary by dimension is shown in Table 3.

Table 2. Descriptive Statistics of Student Engagement per Item

| Item | Statement | Dimension | Mean | SD |
|---|---|---|---|---|
| 1 | I actively answer the teacher's questions | Behavioral | 3.95 | 0.71 |
| 2 | I pay attention when the teacher explains | Behavioral | 4.09 | 0.62 |
| 3 | I complete assignments on time | Behavioral | 3.82 | 0.59 |
| 4 | I rarely play alone during lessons | Behavioral | 3.65 | 0.67 |
| 5 | I follow classroom rules | Behavioral | 3.85 | 0.53 |
| 6 | I feel happy when learning to read | Emotional | 4.05 | 0.55 |
| 7 | I am enthusiastic about writing activities | Emotional | 4.10 | 0.59 |
| 8 | I feel interested in the reading materials in class | Emotional | 4.00 | 0.60 |

| | | | | |
|---|---|---|---|---|
| 9 | I feel joyful when learning in groups | Emotional | 4.12 | 0.57 |
| 10 | I feel the lessons are useful for me | Emotional | 3.85 | 0.61 |
| 11 | I make an effort to understand the reading materials | Cognitive | 3.90 | 0.63 |
| 12 | I use learning strategies to understand better | Cognitive | 3.75 | 0.66 |
| 13 | I try to connect the reading with my own experiences | Cognitive | 3.82 | 0.64 |
| 14 | I think critically about the text | Cognitive | 3.60 | 0.68 |
| 15 | I reflect on the lessons after they are finished | Cognitive | 3.65 | 0.63 |

Table 2 shows that all items of student engagement fall within the moderately high to high categories after the REAL intervention. In the behavioral dimension, students reported relatively good levels of engagement, particularly in paying attention to the teacher's explanations (M = 4.09; SD = 0.62) and following classroom rules (M = 3.85; SD = 0.53). Meanwhile, some active behavioral indicators such as *"asking questions"* and *"avoiding playing alone during lessons"* showed fairly high scores but still displayed some variation (e.g., M = 3.65; SD = 0.67).

In the emotional dimension, the average scores were in the high category. Students felt happy (M = 4.05; SD = 0.55), enthusiastic during writing activities (M = 4.10; SD = 0.59), and joyful when participating in group learning (M = 4.12; SD = 0.57). These results indicate that the REAL approach successfully fostered a positive and relevant learning atmosphere for students.

In the cognitive dimension, scores also increased to a moderately high level, especially on indicators such as making an effort to understand reading materials (M = 3.90; SD = 0.63) and connecting the reading content with personal experiences (M = 3.82; SD = 0.64). However, indicators such as thinking critically about the text (M = 3.60; SD = 0.68) and reflecting on lessons after completion (M = 3.65; SD = 0.63) tended to have lower scores compared to other items, although still within the moderately high category. This indicates that there are challenges in fostering reflective and critical thinking skills among elementary school students.

The summary of average engagement by dimension (see Table 3) shows that emotional engagement recorded the highest score (M = 4.02; SD = 0.58), followed by behavioral engagement (M = 3.87; SD = 0.62) and cognitive engagement (M = 3.74; SD = 0.65). The overall mean engagement score was M = 3.88; SD = 0.61, which falls into the moderately high category.

Table 3. Descriptive Statistics of Student Engagement per Dimension

| Dimension | Number of Items | Mean | SD | Category |
|---|---|---|---|---|
| Behavioral Engagement | 5 | 3.87 | 0.62 | Moderately High |
| Emotional Engagement | 5 | 4.02 | 0.58 | High |
| Cognitive Engagement | 5 | 3.74 | 0.65 | Moderately High |
| **Overall Mean Score** | **15** | **3.88** | **0.61** | **Moderately High** |

This pattern is consistent with the model of engagement proposed by [18], which highlights that cognitive engagement—especially critical analysis and reflection—requires sustained support and explicit modeling by teachers, particularly for younger learners. The outcomes align strongly with the active learning paradigm, which posits that student-centered, inquiry-based activities increase behavioral and cognitive involvement by making learners

active constructors of knowledge [21]. REAL embodies these principles by combining authentic tasks, discussion, and collaborative problem-solving, allowing students to see the purpose of reading and writing beyond classroom exercises. Similar patterns have been reported in global studies: [22] found that active, real-world tasks foster persistence and strategic thinking in literacy classrooms, while [22] emphasized that authentic, experiential learning can significantly boost students' emotional connection and cognitive depth.

Compared with previous research in the Indonesian context, these results provide important new insights. Earlier studies such as [15], [16] highlighted that contextual and project-based literacy instruction could improve motivation and reading fluency in rural schools. However, these studies largely focused on surface engagement or basic reading gains. In contrast, the present study shows that a systematic REAL framework can foster a balanced improvement across all three engagement dimensions, with particularly strong emotional involvement and encouraging signs of cognitive strategy use. Although critical reflection remains a challenge, the notable rise in students' effort to understand and relate texts to personal experience suggests a shift toward deeper engagement with literacy.

Overall, the results affirm that REAL not only improves comprehension but also transforms how students participate, feel, and think during literacy learning. By embedding real-world relevance and collaborative inquiry, the model creates a holistic engagement experience—addressing the behavioral, emotional, and cognitive components outlined by [18]. This multidimensional engagement is crucial because research shows that when students are both emotionally invested and cognitively strategic, they are more likely to become independent and motivated readers [22]; [23].

### 3.3 REAL and Student Engagement Level

Descriptive analysis was conducted to provide an overview of the students' engagement levels, which were measured across three dimensions: behavioral engagement, emotional engagement, and cognitive engagement. The results of the analysis are presented in Table 4 below.

Table 4. Descriptive Statistics of Student Engagement

| Dimensi | Mean | SD |
|---|---|---|
| Behavioral Engagement | 3.85 | 0.62 |
| Emotional Engagement | 3.68 | 0.57 |
| Cognitive Engagement | 3.92 | 0.65 |

Based on Table 4, it can be seen that cognitive engagement obtained the highest mean score (M = 3.92; SD = 0.65), followed by behavioral engagement (M = 3.85; SD = 0.62), and emotional engagement with the lowest mean score (M = 3.68; SD = 0.57). This indicates that, in general, students demonstrated a good level of engagement in the learning process, with a stronger tendency toward the cognitive aspect compared to the emotional aspect. To further clarify the comparison among these three dimensions, the results of the analysis are also visualized through a bar chart in Figure 2 below.

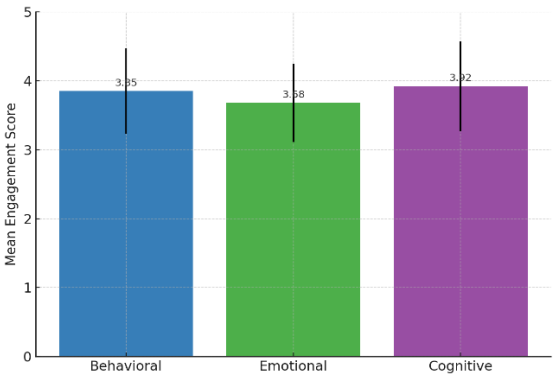


Figure 2. Comparison of Students' Engagement Mean across Dimensions

Based on Figure 2, it is clearly shown that the cognitive dimension occupies the highest position compared to the other two dimensions, confirming that students are more engaged in critical thinking activities, problem-solving, and learning strategies. Meanwhile, the emotional dimension shows a relatively lower level of engagement. This finding may indicate that although students are already quite active behaviorally and possess good cognitive strategies, their positive feelings, enthusiasm, and emotional connection toward the learning activities still need to be improved.

The dominance of cognitive engagement reflects the intended outcomes of REAL, which emphasizes active knowledge construction, contextualized tasks, and problem-solving. According to [18], cognitive engagement represents students' willingness to exert mental effort and apply complex learning strategies, which are crucial for deep understanding and long-term academic growth. REAL supports this by requiring students to connect texts with real-life contexts, analyze issues, and create meaningful outputs, thus pushing them beyond rote memorization toward critical and reflective thinking. This is aligned with the active learning paradigm, which posits that when students are involved in authentic inquiry and collaborative problem-solving, they engage more deeply at the cognitive level.

However, the lower emotional engagement score highlights an important area for further development. While students reported moderately high enjoyment and interest, their emotional connection (e.g., sense of excitement, pride, or personal relevance) may not have reached the same depth as their cognitive involvement. This finding is consistent with the framework of [24], which posits that emotional engagement—feelings of belonging, enthusiasm, and affective attachment to learning—can be more challenging to build, especially in contexts where academic tasks have traditionally been teacher-centered and assessment-driven.

Similar patterns have been noted in global active learning research. For example, [22] found that while authentic and inquiry-driven literacy activities strongly support strategic thinking and problem-solving, fostering long-term positive emotions about learning requires sustained efforts to connect tasks to students' personal identities and future aspirations. Likewise, [23] highlights that experiential and real-world learning can trigger initial curiosity and enjoyment, but continuous emotional engagement depends on students perceiving tasks as meaningful to their lives and communities.

When compared with Indonesian studies, such as [15] and [16], this study confirms that contextualized learning environments can boost motivation and participation but extends the findings by showing a stronger cognitive impact. While earlier interventions primarily

improved motivation and surface-level reading interest, REAL appears to foster higher-order engagement by combining contextual texts with structured active learning strategies and teacher scaffolding. This balance may explain why students demonstrated strong mental effort and problem-solving engagement even though their emotional connection did not increase as sharply.

These results suggest two practical implications. First, teachers implementing REAL should continue integrating culturally relevant and real-world connected tasks to maintain and deepen cognitive engagement. Second, to further enhance emotional engagement, teachers may consider adding student voice and choice, personal reflection sessions, and celebration of student achievements, which can build stronger affective bonds with literacy learning. Embedding self-expression activities—such as personal storytelling or sharing written work with the community—may also strengthen students' emotional investment.

### 3.4 Contextual and Practical Implications of REAL Implementation

The findings highlight that the use of local texts and real-life issues played a central role in making literacy learning meaningful and engaging for rural students. By integrating culturally relevant reading materials and connecting lessons to students' lived experiences, the REAL model enhanced both motivation and comprehension. This approach aligns closely with the Merdeka Belajar curriculum reform, which emphasizes student-centered and meaningful learning, and reinforces the principle that literacy should build on learners' cultural backgrounds. In the broader context of developing countries, ensuring cultural relevance in literacy instruction is crucial to reducing learning poverty and fostering long-term engagement with reading.

Although the REAL model proved effective, its implementation was not without challenges. Teachers reported time constraints, limited availability of contextual reading materials, and varying levels of readiness to adopt new pedagogical approaches. The role of teacher scaffolding emerged as essential in guiding text discussions, clarifying meaning, and supporting students as they engaged in more complex literacy tasks. These findings underscore the need for continuous professional development, particularly in designing authentic literacy activities, facilitating collaborative inquiry, and sustaining active learning practices in rural classrooms.

This study also makes an important contribution to the body of knowledge on contextualized literacy and active learning. While previous research in Indonesia [16] primarily documented improvements in motivation and surface comprehension, this study provides empirical evidence that a systematic, sustained REAL intervention can produce very large effect sizes across multiple levels of comprehension—from literal to critical and creative—while simultaneously enhancing multidimensional engagement (behavioral, emotional, and cognitive). These results expand current theories of literacy learning by showing that contextual relevance and authentic inquiry can be powerful levers for higher-order thinking, even in resource-limited settings. Furthermore, the study refines the framework of [18] by demonstrating how behavioral, emotional, and cognitive engagement can be synergistically stimulated through a culturally grounded, active learning approach.

Practically, the findings offer valuable recommendations for teachers, curriculum developers, and policymakers to integrate locally relevant texts, collaborative projects, and

guided inquiry into literacy instruction. The adaptability of the REAL model suggests its potential to be implemented in other elementary schools with similar conditions, provided that teachers receive sufficient training and that contextual reading resources are made accessible to support its sustainable application. In this way, the study not only addresses urgent challenges in literacy development within rural Indonesia but also offers a scalable pedagogical framework for other developing contexts seeking to bridge the gap between basic literacy skills and deep, meaningful engagement with reading.

## 4. Conclusion and Recommendations

This study provides empirical evidence that the Real-World Engaged Active Learning (REAL) model significantly improves both reading comprehension and student engagement in rural elementary school contexts. The paired-samples *t*-test results showed highly significant improvements across all comprehension aspects—from literal and inferential understanding to higher-order skills such as critical, applicative, and creative thinking—with very large effect sizes (Cohen's $d > 2.7$ for all domains). These findings indicate that REAL is not only effective in strengthening basic reading comprehension but also powerful in fostering students' ability to think critically, apply knowledge, and generate new ideas from texts.

Student engagement also increased across all three dimensions—behavioral, emotional, and cognitive. Students became more attentive, participative, and strategic in their learning, while also developing positive emotions and motivation toward literacy activities. Although emotional engagement remained relatively lower compared to behavioral and cognitive aspects, the overall engagement level reached moderately high to high, suggesting that REAL creates an active and meaningful learning environment. The integration of contextual reading materials, authentic tasks, and teacher scaffolding played a pivotal role in stimulating students' mental effort, collaboration, and reflective thinking.

Theoretically, this study strengthens the literature on contextualized literacy and active learning by demonstrating that systematic, culturally relevant instruction integrated with inquiry-driven activities can substantially enhance both comprehension and multidimensional engagement, even in resource-limited rural contexts. It further refines the engagement framework of Fredricks, Blumenfeld, and Paris (2004) by evidencing how behavioral, emotional, and cognitive dimensions can be simultaneously elevated through meaningful real-world connections. From a practical perspective, the findings suggest that teachers can adopt the REAL approach through the following key steps:

1. Selecting and adapting local texts that reflect students' cultural and community contexts;
2. Designing authentic tasks such as writing letters to local leaders, creating informational posters about local issues, or presenting solutions to community problems;
3. Facilitating collaborative learning via discussions, role-play, and peer feedback;
4. Providing structured scaffolding by guiding vocabulary understanding, modeling inference-making, and encouraging higher-order questioning; and
5. Encouraging reflection by helping students connect texts to personal experiences and evaluate their relevance to real-life challenges.

These strategies offer a clear, actionable roadmap for teachers aiming to transform traditional textbook-centered literacy lessons into active, meaningful, and contextually grounded learning experiences.

For policymakers and school leaders, the study underscores the need to support teachers through professional development programs that build competence in designing culturally relevant literacy materials, structuring inquiry-based activities, and facilitating reflective learning. Moreover, investment in developing and distributing localized reading resources is essential to ensure the sustainability and scalability of REAL-based interventions across rural schools.

In conclusion, the REAL framework offers a scalable, evidence-based model for improving literacy and engagement in contexts where access to resources is limited and traditional methods dominate. Future research could employ quasi-experimental or randomized controlled trials to further validate its long-term impact on students' independent reading habits, critical thinking, and emotional connection to learning. By aligning with the principles of Merdeka Belajar, this approach has the potential to strengthen national literacy initiatives and contribute to closing the learning gap in underserved areas.

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