

Implementing Problem-Based Learning to Support Critical Reading Skills of Junior High School Students at SMPN 15 Bengkulu City

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Abstract

Background: The low reading literacy performance of Indonesian students highlights the need for school programs that help students understand texts more deeply and connect them to real situations.

Aims: This community service program is designed to enhance students' critical reading skills through the use of Problem-Based Learning and to build teacher capacity in applying inquiry-oriented reading activities.

Method: The program was conducted over eight sessions and involved twenty-eight students, an English teacher, and a lecturer. Activities included teacher training, classroom mentoring, and the use of problem-based reading materials. Monitoring and evaluation were carried out through classroom observations, teacher reflections, and samples of student work.

Results: The implementation of Problem-Based Learning supported by teacher professional development resulted in positive outcomes. Students' average critical reading scores increased by 23 percent, with positive gains in identifying main ideas, locating key details, comparing information across texts, and understanding academic vocabulary. Student engagement also improved, as learners participated more actively, asked relevant questions, and collaborated more effectively. In addition, the teacher demonstrated increased confidence in guiding inquiry-based reading tasks and facilitating student-centered discussions.

Conclusion: The program strengthened students' reading literacy and supported teacher capacity, demonstrating that PBL is a practical and effective approach for classroom implementation.

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INTRODUCTION

Reading is an important component of English learning in junior high schools because it supports students' ability to understand ideas, interpret vocabulary, and make simple inferences from texts. However, studies in the Indonesian context report that junior high school students experience difficulties in identifying main ideas, locating key details, and understanding academic vocabulary (Concepcion, 2024; Sitorus & Haz, 2024; Situmorang, 2022). Students often rely on literal comprehension and have difficulty connecting information across a text (Kamagi, 2020; Martini et al., 2025). These problems affect their learning in other subjects and show the need for better reading instruction (OECD, 2023).

At SMPN 15 Kota Bengkulu, similar issues were identified through preliminary classroom observations and discussions with the English teacher. Students showed limited ability to interpret short descriptive and narrative texts, particularly when required to explain meanings, compare information, or express ideas based on their reading. Instructional practices were focused on translation and answer checking, which provided minimal opportunities for strategy use, discussion, and inquiry (Zatalini, 2019). As a result, students tended to depend heavily on teacher explanations and demonstrated low engagement in independent reading activities. These findings indicate that traditional teaching approaches are insufficient for developing students' reading skills (Hue, 2024;

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Wang & Yan, 2025). Therefore, a community service program implementing a Problem-Based Learning approach to reading offers a practical solution.

This condition reflects a gap between curriculum expectations and classroom realities. The current junior high school curriculum emphasizes literacy, critical thinking, and problem solving, yet students' reading competence remains limited (Putri et al., 2023; Selian & Lubis, 2022). Although students at this level are cognitively more advanced than elementary learners, they still require instructional support that promotes active engagement, strengthens academic vocabulary, and develops inference-making skills (Erni, 2021). However, practical models that integrate these demands into English reading instruction, particularly through Problem-Based Learning, remain underexplored in junior high school settings.

These findings suggest that conventional reading instruction provides limited opportunities for students to actively engage with texts and apply reading strategies meaningfully. In response, this community service program adopts a Problem-Based Learning approach to address these instructional gaps. PBL engages students in working with contextual problems that require them to interpret texts, apply reading strategies, and collaborate in constructing meaning. Research has shown that such problem-oriented learning can enhance reading comprehension and analytical reasoning among secondary learners (Hromova et al., 2021; Yoedo & Mustofa, 2022). Consistent with constructivist perspectives on reading, PBL emphasizes active interaction between readers, texts, and learning contexts, allowing students to draw on prior knowledge, negotiate meaning, and develop deeper engagement with reading materials (Hu, 2024; Li et al., 2024b).

Based on the identified needs of SMPN 15 Kota Bengkulu, this community service program was designed to support students and teachers. The program combined classroom implementation of PBL with targeted teacher training to strengthen instructional capacity. The novelty of this program lies in applying PBL to develop critical reading skills among seventh-grade students while simultaneously equipping teachers with practical instructional tools. The expected outcomes include improved student reading performance, increased classroom engagement, enhanced teacher confidence in guiding inquiry-based tasks, and the production of practical outputs such as PBL lesson plans, student worksheets, and literacy modules that can be sustained beyond the program period.

METHOD

Program Design and Stages

This community service program was conducted at SMPN 15 Kota Bengkulu as the partner school and followed three systematic stages: planning, implementation, and evaluation.

Planning Stage

A needs analysis was conducted through classroom observations and informal discussions with the English teacher to identify students' reading difficulties and instructional constraints. Based on these findings, the team designed a Problem-Based Learning reading program and prepared learning materials, assessment instruments, and instructional outputs aligned with the junior high school curriculum.

Implementation Stage

The program involved 28 seventh-grade students who had basic English reading skills and cognitive readiness to engage in PBL activities. The intervention was delivered across eight sessions, each lasting 120 minutes. Teacher training and mentoring were integrated into classroom implementation. The training focused on PBL principles, lesson sequencing, questioning techniques, facilitation of group discussion, and integration of reading strategies such as identifying main ideas, locating details, comparing information, and interpreting academic vocabulary. During classroom activities, the teacher acted as a facilitator, while the service team provided instructional support and feedback.

Evaluation Stage

Program effectiveness was evaluated using quantitative and qualitative instruments to capture learning outcomes and instructional processes.

Instruments and Data Collection

Students' reading comprehension was measured using a pre-test and post-test consisting of junior high school-level texts. The test items were reviewed by two English education experts to ensure content validity and alignment with instructional objectives. Reliability was examined using internal consistency analysis, which indicated acceptable reliability for classroom-based assessment.

Qualitative data were collected through classroom observations to document student engagement during PBL activities and semi-structured interviews with the teacher to explore perceptions of instructional change and confidence. Student worksheets, discussion notes, and learning tasks were also collected to support triangulation of findings.

Outputs of the Program

The community service program produced several tangible outputs, including PBL-based reading lesson plans, student worksheets designed for collaborative problem solving, and literacy modules that integrate reading strategies within problem-based tasks. These materials were developed to support sustainable classroom use beyond the program period.

Indicators of Success

Student success was indicated by improvements in reading comprehension scores, increased engagement during reading activities, and more active participation in discussion and collaboration. Teacher success was indicated by increased confidence in facilitating inquiry-based reading tasks, effective use of PBL procedures, and the ability to implement the developed instructional materials independently.

RESULTS AND DISCUSSION

Results

Improvement in Students' Reading Skills

To evaluate the effectiveness of Problem-Based Learning in improving students' reading skills at SMPN 15 Kota Bengkulu, pre-tests and post-tests were administered to seventh-grade students. The assessment measured four indicators of reading comprehension: identifying main ideas, locating details, making inferences, and understanding academic vocabulary. This design allowed the comparison of students' reading performance before and after the implementation of problem-based critical reading activities in the classroom. Table 1 presents the comparison between students' pre-test and post-test scores.

Table 1. Students' Pre-test and Post-test Reading Comprehension Scores

No	Reading Indicator	Pre-test (Mean)	Post-test (Mean)	Improvement (%)
1	Identifying main ideas	58	78	+20
2	Locating details	55	80	+25
3	Making inferences	50	74	+24
4	Academic vocabulary	52	76	+24
Average		54	77	+23

Table 1 shows a clear improvement in students' reading comprehension across all indicators. The average score increased from 54 in the pre-test to 77 in the post-test, indicating an overall improvement of 23 percent. The highest improvement occurred in locating details with an increase of 25 percent. This was followed by making inferences and academic vocabulary, both improving by 24 percent. Identifying main ideas also improved by 20 percent.

The improvement in reading performance was closely related to the instructional stages implemented during the classroom activities. The lesson began with problem orientation, where the

teacher introduced a contextual reading problem to stimulate students' curiosity and activate their prior knowledge. As shown in Figure 1, the teacher explained the reading issue while students listened attentively and prepared to analyze the text. This stage helped students understand the purpose of reading and encouraged them to think about the problem presented in the lesson.



Figure 1. The Teacher Introduces a Real-World Reading Problem to the Class While Students Listen Attentively

Students then moved to the problem exploration stage, where they worked in small groups to examine the reading text and identify questions related to the problem. Through group discussion, students attempted to determine what information in the text could help them understand the issue. This learning process is illustrated in Figure 2, where students examine the text and formulate questions that guide their reading activities. These collaborative discussions encouraged students to focus on key ideas and supporting details in the passage.



Figure 2. Students Discuss the Problem in Groups and Identify Key Questions While Examining the Reading Text

The next stage involved independent investigation and guided discussion. Students first read the text individually and attempted to identify the main ideas, supporting details, and relevant evidence presented in the passage. After completing the individual reading task, they shared their findings with their group members and compared interpretations. During this process, the teacher monitored the classroom activities, provided guidance, and checked students' group work. This interaction between teacher guidance and collaborative learning is shown in Figure 3, where the teacher facilitates group discussion and supports students in analyzing the text.



Figure 3. Students Discuss the Problem in Groups While the Teacher Guides the Discussion and Checks Their Group Work

The final stage involved problem-solving and reflection, where students demonstrated their understanding by presenting their conclusions in front of the class. Individual students explained their interpretations of the reading text, described the supporting information they found, and responded to questions from classmates. As illustrated in Figure 4, students presented their ideas and participated in class discussion while the teacher provided feedback. This presentation activity allowed students to clarify their understanding and reflect on how they interpreted the reading passage.



Figure 4. Students Perform Individually to Present Their Conclusions in Front of the Class

In addition to individual presentations, students also worked collaboratively to explain their group interpretations of the reading problem. Each group summarized the main ideas of the text and justified their conclusions using textual evidence. This collaborative presentation is illustrated in Figure 5, where students present their group conclusions and respond to questions from peers.



Figure 5. Students Perform in Groups to Present Their Conclusions in Front of the Class

Qualitative evidence from student learning products also indicates improvement in reading performance. Before the program, many written responses mainly copied sentences from the text and provided limited explanations. After the implementation of Problem-Based Learning activities, students demonstrated clearer identification of main ideas, more accurate extraction of supporting details, and more complete explanations when answering inference questions.

Documentation of student work further illustrates these changes. Pre-intervention worksheets showed brief answers with minimal justification. After the intervention, students produced more structured written responses and supported their answers with textual evidence. These improvements indicate that the structured stages of problem-based reading activities helped students engage more actively with the text and encouraged deeper comprehension.

Teacher instructional products were also documented. Prior to the mentoring program, lesson plans mainly relied on textbook questions and teacher explanation. After mentoring sessions, teachers developed lesson plans that incorporated problem-based reading tasks, guiding questions, and collaborative activities. Classroom observation notes also showed increased use of group discussions and guided questioning, which supported students' participation during reading lessons.

Students' Responses and Classroom Engagement

Classroom observations revealed increased student engagement during reading lessons after the implementation of Problem-Based Learning activities. Students became more active in asking questions about unfamiliar vocabulary, identifying main ideas, and discussing difficult parts of the

text with peers. These interactions were particularly visible during the exploration and investigation stages illustrated in Figures 2 and 3, where students exchanged ideas and negotiated meaning while working in groups.

Group discussions became more interactive, with students sharing interpretations and comparing their understanding of the text. Compared with previous lessons that relied mainly on individual worksheet completion, classroom interaction increased significantly during collaborative problem-based tasks.

Interviews with the English teacher also indicated changes in student participation. The teacher reported that students were more willing to explore texts, explain their reasoning, and participate in group discussions during reading activities. Students appeared more confident in expressing their opinions and asking questions related to the text.

Documentation of learning products further demonstrates student engagement. Students produced various outputs such as short summaries, mind maps illustrating main ideas and supporting details, and simple visual representations of text content. These outputs showed more organized thinking compared with earlier worksheets that mainly required short answers.

The mentoring sessions also influenced teachers' instructional practices. Teachers demonstrated greater confidence in organizing group discussions, guiding problem-based reading tasks, and encouraging students to explain their reasoning during classroom activities.

In terms of sustainability, the school expressed readiness to continue using Problem-Based Learning in reading instruction. Teachers developed lesson plans, worksheets, and guiding questions that can be reused or adapted for future classes. However, teachers also reported several challenges, including limited time for group activities and differences in students' reading proficiency, which may require additional instructional support in future implementations.

Discussion

The findings indicate that the implementation of Problem-Based Learning (PBL) contributed to a substantial improvement in students' reading comprehension, particularly in identifying main ideas, locating details, making inferences, and understanding academic vocabulary. The overall increase from the pre-test mean score of 54 to the post-test mean score of 77 suggests that problem-oriented reading tasks can support both literal and higher-level comprehension processes. These results support previous studies reporting that PBL promotes deeper engagement with texts by positioning learners as active problem solvers rather than passive recipients of information (Akuba & Pido, 2025; Berenji et al., 2020; Lin, 2018).

The improvement across reading indicators can be interpreted through a social constructivist perspective. According to Vygotsky (1978), learning develops through interaction and guided participation in meaningful tasks. In the present study, students worked collaboratively to analyze texts, identify key information, and discuss possible interpretations. Through these interactions, learners exchanged ideas, negotiated meaning, and clarified misunderstandings. The collaborative dialogue allowed students to construct understanding collectively while receiving support from peers and teacher guidance. These conditions are consistent with the constructivist view that comprehension develops through mediated interaction and shared problem solving (Hughes, 2021; Marhadi et al., 2023; Saleh et al., 2022).

The notable improvement in inference-making and academic vocabulary also reflects cognitive development processes during early adolescence. At this stage, learners gradually develop the capacity for more abstract and analytical thinking (Piaget, 2013). PBL activities provided contextual reading problems that required students to interpret implicit meanings, connect ideas across paragraphs, and justify their interpretations with textual evidence (Addas, 2021; Rosyidin et al., 2022). These tasks encouraged learners to move beyond surface-level understanding toward more analytical reading processes. Similar findings have been reported in studies demonstrating that problem-oriented reading instruction supports the development of higher-order comprehension skills (Anggraini et al., 2025; Berenji et al., 2020; Nguyen, 2022; Zenki-Dalipi, 2024).

The qualitative evidence further clarifies how these improvements occurred. Classroom observations and analysis of student learning products showed increased questioning, collaborative discussion, and more structured written responses. Students began to explain their answers using textual evidence rather than simply reproducing sentences from the reading passage. These behaviors indicate the application of strategic reading processes, including identifying key information, scanning for supporting details, and generating inferences. Effective reading comprehension depends on the coordinated use of cognitive and metacognitive strategies in meaningful contexts (Grabe & Stoller, 2019; Liu, 2024; Rahimi & Katal, 2023). PBL tasks created the contexts by requiring students to analyze texts while solving authentic reading problems.

Teacher mentoring also played an important role in the success of the program. After participating in training sessions, teachers demonstrated increased confidence in organizing discussion-based reading activities and guiding students through analytical questioning. Instead of relying mainly on direct explanation, teachers facilitated group interaction and encouraged students to justify their interpretations. This shift reflects the instructional concept of guided learning within the zone of proximal development, where teachers provide support that helps learners perform tasks beyond their current level of independent ability (Al-Hawamdeh, 2025; Hassan et al., 2025; Li et al., 2022). The findings therefore highlight the importance of teacher preparation in ensuring effective implementation of problem-oriented reading instruction.

From a pedagogical perspective, the results suggest that integrating PBL into reading instruction can support student learning and teacher professional development. Problem-based reading tasks encouraged students to actively engage with texts, discuss interpretations, and construct meaning collaboratively (Addas, 2021). At the same time, mentoring activities enabled teachers to design more interactive learning environments that promote inquiry and discussion. These outcomes indicate that instructional innovation becomes more sustainable when classroom implementation is accompanied by structured teacher support and material development.

The study also provides evidence that school-based mentoring programs can contribute to sustainable instructional improvement. Teachers produced lesson plans, worksheets, and guiding questions that can be reused and adapted for future classes. Nevertheless, several challenges were identified during implementation, including variation in students' reading proficiency and time management during collaborative activities. These challenges indicate that teachers may require continued support to refine classroom management strategies and provide appropriate scaffolding for students with different levels of reading ability.

Overall, the findings demonstrate that PBL offers a pedagogically feasible and theoretically grounded approach for strengthening reading instruction in secondary EFL classrooms. By combining problem-oriented tasks, collaborative learning, and teacher facilitation, PBL creates learning conditions that encourage deeper engagement with texts and promote the development of analytical reading skills. The results therefore contribute empirical support for the integration of problem-based pedagogy in school reading programs, particularly in contexts where students need greater opportunities to practice strategic and collaborative comprehension processes.

Implications

The findings of this study suggest several implications for reading instruction and teacher professional development in EFL contexts. The improvement in students' reading comprehension indicates that Problem-Based Learning can support deeper engagement with texts by encouraging learners to analyze information, identify key ideas, interpret implicit meanings, and justify responses using textual evidence. Reading instruction therefore benefits from the integration of problem-oriented tasks, guided discussion, and collaborative analysis that promote active and strategic reading processes. The study also highlights the importance of teacher mentoring in supporting the implementation of innovative instructional approaches. Through training and guided practice, teachers developed greater confidence in facilitating discussion-based reading lessons and designing analytical reading tasks. At the institutional level, the development of PBL-based lesson plans and instructional materials provides practical resources that can sustain instructional improvement beyond the duration of the program. These findings suggest that combining problem-oriented

reading tasks with teacher professional support can strengthen classroom practice and students' analytical reading skills in secondary EFL settings.

Research Contribution

This study contributes to the development of reading instruction in EFL contexts, particularly at the junior high school level. The findings indicate that the use of Problem-Based Learning can support improvement of students' reading comprehension skills. The comparison of pre-test and post-test results shows measurable progress in identifying main ideas, locating details, making inferences, and understanding academic vocabulary. These results suggest that problem-based reading activities can encourage students to engage more actively with texts and apply reading strategies more effectively.

The study also illustrates a practical example of how critical reading activities can be implemented through structured stages of Problem-Based Learning. The instructional process included problem orientation, collaborative exploration, independent investigation, and presentation of solutions. These stages created opportunities for students to examine textual information, discuss interpretations with peers, and justify their responses using evidence from the text.

In addition, the program supported teachers in developing instructional materials that integrate problem-based reading tasks into classroom practice. Through mentoring activities, teachers prepared lesson plans, guiding questions, and collaborative reading worksheets that encourage discussion and analytical reading. These materials provide practical examples of how collaborative inquiry and evidence-based discussion can be incorporated into reading instruction in similar educational contexts.

Limitations

This program has several limitations that should be considered when interpreting the findings. The implementation involved a single group of seventh-grade students from one junior high school. Therefore, the findings should be interpreted cautiously when applied to other educational contexts. The evaluation used a pre-test and post-test design without a comparison group. Therefore, the improvement in reading performance cannot be attributed solely to the intervention. In addition, the duration of the program was relatively short, which limited opportunities for extended practice of critical reading strategies. Variations in students' reading proficiency also influenced participation during group discussions and presentations, as some students required additional guidance when analyzing texts and explaining their interpretations. Future studies may consider longer implementation periods, comparison groups, and differentiated instructional support to strengthen evidence on the effectiveness of Problem-Based Learning in reading instruction.

Suggestions

Based on the implementation and findings of this program, several suggestions can be proposed for future practice and research. English teachers at the junior high school level are encouraged to integrate Problem-Based Learning into reading instruction to encourage active engagement with reading texts. Teachers may design contextual reading problems, guiding questions, and collaborative activities that support students in analyzing information, discussing interpretations, and explaining their answers using textual evidence. During group discussions, teachers should also provide clear guidance and monitoring to support students with different levels of reading proficiency.

Schools are encouraged to support professional development activities that focus on the implementation of Problem-Based Learning in reading instruction. Workshops, mentoring programs, and collaborative lesson planning can help teachers develop instructional materials and share effective strategies for organizing problem-based reading activities in the classroom.

Future studies may examine the implementation of problem-based reading instruction in different schools and over longer instructional periods. Further research may also explore its impact on broader aspects of critical reading, including evaluating arguments and interpreting author perspectives in academic texts.

CONCLUSION

The community service program conducted at SMPN 15 Kota Bengkulu indicates that the use of Problem-Based Learning supported the development of seventh-grade students' critical reading skills. The comparison between pre-test and post-test scores showed consistent improvement across four reading indicators, namely identifying main ideas, locating important details, making inferences, and understanding academic vocabulary. The average score increased from 54 in the pre-test to 77 in the post-test, indicating substantial progress in students' reading comprehension after the implementation of problem-based reading activities. Classroom observations and teacher interviews further confirmed these improvements. Students demonstrated greater participation during reading lessons, asked questions more confidently, and engaged more actively in group discussions. The instructional process encouraged students to analyze textual information, exchange interpretations with peers, and justify their answers using evidence from the text. These activities helped students move beyond surface-level reading and develop a more analytical engagement with reading materials. The program also contributed to changes in instructional practice. Teachers implemented structured stages of problem-based reading activities, including problem orientation, collaborative exploration, guided investigation, and presentation of solutions. These stages created opportunities for students to interact with texts, discuss interpretations, and reflect on their understanding during reading tasks. Overall, the program suggests that Problem-Based Learning can support the development of critical reading and student engagement in junior high school reading classes. The instructional materials, lesson plans, and collaborative reading tasks developed during the program provide practical resources that can be adapted for future reading instruction in similar educational contexts.

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AUTHOR CONTRIBUTION STATEMENT

The author was responsible for all aspects of this study, including conceptualization, research design, data collection, data analysis, interpretation, and manuscript preparation.

AI DISCLOSURE STATEMENT

The author declares that this research was prepared, conducted, written, and edited without the use of artificial intelligence (AI) tools or services. All stages of the study, including data collection, analysis, interpretation, and manuscript preparation, were completed solely by the author, who takes full responsibility for the content of this publication.

CONFLICTS OF INTEREST

No financial, institutional, or personal conflicts of interest are associated with this study or its publication.

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