

The Effect of Problem Based Learning on Fifth-Grade Students' Speaking Ability in Oral Presentations of Short Stories

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ABSTRACT

This study aimed to determine the effect of the problem-based learning (PBL) model on students' speaking ability in oral presentations about short stories in grade V of State Elementary School 108 Aekmata, Mandailing Natal Regency, during the academic year 2025–2026. The background of this study is based on the low speaking ability of students, which is characterized by a lack of courage, irregularity in conveying content, and minimal active participation of students during the learning process. This study used a quantitative approach with a pre-experimental design of one-group pretest-posttest type. The study participants were all 23 fifth-grade students, who were selected using saturated sampling. Data were collected through speaking ability tests before and after treatment and analyzed descriptively and inferentially using the t-test. The results showed that before the implementation of the PBL model, the average pretest score of students' speaking ability was 65.43. At this stage, the majority of students were in the "sufficient" (65%) and "less" (35%) categories, and only 9% achieved learning completion. After the implementation of the PBL model, there was a significant increase with an average posttest score of 84.82. The distribution of scores showed that 48% of students were in the "very good" category, 30% were in the "good" category, and 22% were in the "sufficient" category, and 87% of students achieved learning completion. Inferential statistical analysis with the t-test showed that the t-value (4.016) was greater than the t-table (1.713) at a significance level of 0.05. This means that H_0 was rejected and H_1 was accepted, which shows that there was a significant effect of the implementation of the PBL model on improving students' speaking skills. This improvement was not only seen in academic grades but also in affective and psychomotor aspects, such as self-confidence, fluency in conveying ideas, and active involvement of students in group discussions. Based on these findings, it is recommended that the PBL model be used as an alternative to learning Indonesian to improve students' speaking skills, especially in oral presentations of short stories.

Keywords: Problem-Based Learning, Speaking Skills, Oral Presentations, Short Stories

I. INTRODUCTION

Education is widely recognized as a key driver in improving the quality of human resources and shaping individuals who are capable of contributing meaningfully to society. In formal schooling, this mandate is operationalized through curriculum, infrastructure, teacher competence, learner characteristics, and, in particular, the quality of classroom instruction. For language education, effective teaching should not only transmit knowledge about language but also develop students' ability to use language as a tool for communication, thinking, and social interaction (Jafar Syahbuddin Ritonga, 2026).

In Indonesian primary schools, Bahasa Indonesia as a subject plays a strategic role in developing students' receptive (listening and reading) and productive (speaking and writing) skills. Among these skills, speaking occupies a central place because it is the most frequently used mode of communication in everyday life and serves as a foundation for academic participation, collaboration, and self-expression. However, despite its importance, speaking is often the weakest area for many students. They may be able to memorize content, answer written questions, or recall factual information; however, they struggle to convey ideas orally in a coherent, confident, and engaging manner (Dewantara, 2025).

Preliminary observations at State Elementary School 108 Aekmata in Mandailing Natal Regency confirmed this pattern. Fifth-grade students were reluctant to speak during lessons, rarely volunteered to answer questions, and showed visible anxiety when asked to present in front of the class. When required to present a short story orally, many students could not organize the content logically, used limited vocabulary, and delivered their speech in a monotonous tone with minimal eye contact. Class discussions tended to be dominated by a few

outspoken students, while the majority remained passive listeners. Such conditions undermine the intended outcomes of the Indonesian language curriculum, which emphasizes active communication and presentation skills as key competencies at the elementary level (Sari & Syafryadin, 2024).

Several factors contribute to these challenges. First, instructional practices in many classrooms remain largely teacher-centred. Lessons often consist of the teacher explaining concepts, reading texts, and asking a small number of display questions, while students listen, take notes, and answer when called upon. This structure provides few opportunities for students to engage in extended oral discourse, negotiate meaning, or practice presenting information in their own words. Second, the limited use of interactive media and tasks reduces the motivational appeal of speaking activities. Without meaningful, context-rich tasks, students may view speaking exercises as artificial and disconnected from their lives. Third, affective factors, such as the fear of making mistakes, low self-confidence, and peer pressure, further inhibit students from speaking up, particularly in front of the entire class (Ariza Arsul et al., 2025).

In this context, there is a strong need for instructional models that can reorient classroom practice towards student-centred learning and provide structured opportunities for speaking. Problem-based learning (PBL) is one such model. PBL positions students as active problem solvers who collaboratively investigate authentic issues, construct understanding, and present solutions. Rather than receiving information passively, students encounter a problem scenario that requires them to identify issues, gather information, analyze alternatives, and communicate their conclusions. The teacher's role shifts to that of a facilitator, guiding inquiry, scaffolding discussions, and providing feedback (Putri et al., 2024).

In the context of short-story learning in Bahasa Indonesia, PBL can be operationalized by using stories as rich problem contexts. A short story typically contains conflicts, moral dilemmas, and social relationships that students can analyze and discuss. Through PBL, students may be asked to identify the main problem in the story, explore characters' motivations, propose alternative resolutions, and reflect on the values conveyed. These activities naturally lend themselves to group discussions and oral reporting, thereby creating multiple occasions for students to practise speaking meaningfully. Moreover, the narrative nature of short stories can reduce anxiety, as students can "speak through" characters and events rather than solely about themselves (Muhyidin, 2021).

This study was designed to examine empirically whether implementing PBL in teaching short stories can improve fifth-grade students' speaking ability in oral presentations. Specifically, the research focused on oral presentations in which students present the content and interpretation of a short story to their peers. Speaking ability was defined in terms of several observable dimensions: pronunciation, volume, word choice, intonation and pausing, fluency, and confidence. These dimensions reflect not only linguistic accuracy but also delivery and affective aspects that are crucial for effective classroom presentations.

The empirical rationale for this study is supported by previous research indicating positive impacts of PBL on learning outcomes and communication skills. Studies in various subjects have reported increased student active participation, critical thinking, and achievement after PBL implementation. Research specifically targeting speaking skills has shown that when students are engaged in problem-based tasks requiring explanation and argumentation, their oral performance improves in terms of coherence, vocabulary use, and willingness to communicate. However, there remains a need for context-specific evidence in Indonesian primary schools, particularly in relation to oral presentations of literary texts (Aspita et al., 2025).

From a practical perspective, the findings of this research are expected to provide teachers and schools with an evidence-based instructional alternative to address low speaking performance. If PBL is shown to significantly enhance speaking ability, it can be recommended for wider implementation in Indonesian language classes, accompanied by appropriate training and resource development. For teachers, PBL offers a structured framework to design lessons that combine cognitive, affective, and psychomotor objectives: students must understand the story, think critically about its issues, collaborate in groups, and perform an oral presentation. For students, PBL can foster a more engaging and supportive environment in which they practice speaking not merely as a mechanical exercise, but as an integral part of solving meaningful problems (Aisyatunnadiya et al., 2025).

Based on the background described above, this study addressed the following research questions: (1) What is the level of students' speaking ability in oral presentations of short stories before the implementation of the PBL model? (2) What is the level of students' speaking ability after the implementation of PBL? and (3) Does the PBL model have a significant effect on students' speaking ability in oral presentations of short stories?. The main objective of the study was to determine the effect of PBL on the speaking performance of fifth-grade students at State Elementary School 108 Aekmata.

II. METHODS

A. Research Design

This study employed a quantitative approach with a pre-experimental one-group pretest–posttest design. In this design, a single group of participants is measured before and after the intervention, and changes in the dependent variable are attributed to the treatment, with appropriate caution regarding internal validity. The independent variable in this research was the implementation of the problem-based learning (PBL) model in teaching short stories, whereas the dependent variable was students' speaking ability in oral presentations (Creswell, 2021).

A one-group pretest–posttest design was selected because of practical considerations at the research site, where random assignment of students to control and experimental groups was not feasible. Despite its limitations, this design allows for the examination of within-subject changes and provides initial empirical evidence regarding the potential impact of PBL on speaking ability in a real classroom context.

B. Research Site and Participants

The study was conducted at State Elementary School 108 Aekmata, located in Mandailing Natal Regency, Indonesia, during the 2025–2026 academic year. The school was selected purposively based on the researcher's teaching assignment and initial observations indicating low levels of student participation and speaking performance in Indonesian language lessons (Sugiyono, 2019).

The study population comprised all fifth-grade students at the school. Because there was only one class at this grade level, and the total number of students was manageable, the entire class was included as the research sample using saturated sampling. Thus, 23 students (aged approximately 10–11 years) participated in the study. This sampling strategy ensured that the findings would be directly applicable to the class involved and allowed for tentative generalization to similar contexts.

The independent variable was the PBL instructional model applied to the teaching of short stories. In operational terms, PBL referred to a sequence of learning activities in which students, organized into small groups, were presented with a short story containing a central problem, identified and analyzed the problem, generated and discussed possible solutions, and presented their conclusions orally to the class. The teacher functioned as a facilitator, guiding group work, asking probing questions, and providing feedback on both content and speaking performance.

The dependent variable was speaking ability in oral presentations about short stories. Speaking ability was operationalized through observable performance on a structured speaking task, in which students or groups presented the content and interpretation of a short story to the class. Performance was assessed using an analytical rubric covering six dimensions: (1) pronunciation, (2) volume, (3) word choice, (4) intonation and pausing, (5) fluency, and (6) confidence. Each dimension was rated on a five-point scale from 1 (very poor) to 5 (very good), and the total score was converted into a numerical value consistent with the school's assessment system.

The main research instrument was a speaking performance test administered as a pretest and posttest. For both tests, students were asked to deliver an oral presentation related to a short story. In the pretest, students presented a short story based on standard textbook materials without prior exposure to PBL. In the posttest, after the PBL intervention, students presented the results of their group problem analysis and the interpretation of another short story (Arikunto, 2017).

An assessment rubric was used to score speaking performances. The rubric, adapted and simplified from established speaking assessment frameworks, specified criteria and descriptors for each of the six dimensions. For example, in terms of pronunciation, a score of 1 indicated unclear articulation heavily influenced by dialect and inappropriate intonation, whereas a score of 5 indicated very clear articulation without noticeable dialect interference and highly appropriate intonation. Similar detailed descriptors were provided for volume, word choice, intonation and pausing, fluency, and confidence. The rubric was reviewed by an experienced Indonesian language educator to enhance content validity.

In addition to the test and rubric, observational notes were taken during the intervention to capture qualitative indicators of student participation, engagement, and behavioral changes related to speaking, such as willingness to volunteer, eye contact, and interaction within groups. Although these notes were not analyzed statistically, they informed the interpretation of the quantitative findings.

The research was conducted in several stages. First, preparatory activities included developing lesson plans based on the PBL model, selecting and adapting short stories suitable for fifth-grade students, preparing the speaking tests and rubrics, and obtaining administrative and ethical clearance from the school.

Second, a pretest was administered to establish a baseline of students' speaking ability. Each student (or group, depending on the classroom arrangement) was asked to present a short story orally in front of the class. The researcher and, where possible, a collaborating teacher observed and scored the performance using the rubric. Scores were recorded for each dimension as well as the overall total.

Third, the PBL intervention was implemented over a series of lessons. Drawing on the school's lesson plan for Bahasa Indonesia, the intervention followed a structured sequence:

Orientation and motivation: The teacher explained the learning objectives, the importance of speaking and presentation skills, and the basic principles of PBL.

Problem presentation: The students were presented with a short story that contained a clear central problem or conflict. The story was read together, and their initial comprehension was checked.

Group formation and task assignment: The students were divided into small heterogeneous groups. Each group received a worksheet that guided them to identify the main problem in the story, analyze its causes, consider alternative solutions, and formulate a conclusion or message.

Inquiry and discussion: The students discussed the story, answered worksheet questions, and prepared the content of their oral presentations in groups. The teacher circulated to facilitate the discussion, clarify questions, and encourage all group members to participate.

Preparation of presentations: Groups organized their ideas into a coherent presentation outline, including an introduction, explanation of the story and its problem, proposed solutions, and closing reflections. They rehearsed their presentations, paying attention to pronunciation, volume, and expression.

Oral presentations: Each group presented its analysis and reflections in front of the class. While one or more representatives spoke, other group members supported them by managing visual aids or responding to questions. The teacher assessed the presentations using the rubric and encouraged peer questions and feedback.

Reflection and feedback: After the presentations, the teacher led a brief reflection session on what the students had learned about the story and speaking. Specific feedback was provided on the students' strengths and areas for improvement in their speaking performance.

This cycle was implemented for at least one complete topic to ensure that students had sufficient exposure to PBL processes and multiple opportunities to engage in oral presentations.

Fourth, after the completion of the intervention, a posttest was administered. The posttest involved a speaking task of a similar format and difficulty to the pretest, again focusing on the oral presentation of a short story. The same rubric and scoring procedures were used to ensure comparability.

C. Data Analysis

Data from the pretest and posttests were entered into a spreadsheet for analysis. Descriptive statistics (mean scores and percentages) were calculated to summarize students' speaking performance before and after the intervention. In particular, the mean total score and the proportion of students achieving the school's mastery criterion for speaking were examined (Moleong, 2022).

To test the research hypothesis regarding the effect of PBL, a paired-samples t-test was conducted to compare the pretest and posttest mean scores. The significance level was set at 0.05. The null hypothesis stated that there would be no significant difference between the pretest and posttest speaking scores, whereas the alternative hypothesis posited significant improvement after PBL implementation. The obtained t-value was compared with the critical t-value from the t-distribution table for 22 degrees of freedom ($N - 1$).

III. RESULTS AND DISCUSSION

A. Descriptive Results

A descriptive analysis of students' speaking scores revealed clear improvement from pretest to posttest. Before the implementation of the PBL model, the mean speaking score was 65.43. At this stage, most students' performances fell into the lower categories, indicating limited mastery of the required speaking skills. Only a small percentage of students reached the mastery criterion set by the school, reflecting the minimum standard for satisfactory performance.

After the PBL-based intervention, the mean speaking score increased markedly to 84.82. This substantial gain in the mean suggests that, overall, students were able to deliver more effective oral presentations following the implementation of PBL. The distribution of performance categories also shifted noticeably. Whereas prior to the intervention many students were classified as "fair" or "poor," after the intervention a large proportion moved into the "good" and "very good" categories. Specifically, 48% of students were rated "very good," 30% "good," and 22% "fair" in the posttest.

Progress was also visible in the proportion of students achieving the mastery criterion. At pretest, only approximately 9% of students met or exceeded this standard, confirming the initial concern that most students were not yet able to speak effectively in oral presentations. Following the PBL intervention, the proportion of students achieving mastery increased dramatically to 87%, indicating that the vast majority had reached an acceptable or higher level of speaking ability.

These key quantitative outcomes are summarised in Table 1.

Table 1. Summary of Students' Speaking Scores Before and After PBL Implementation

Measure	Pretest	Posttest
Number of students	23	23
Mean speaking score	65.43	84.82
Students achieving mastery criterion (%)	9	87

To determine whether the observed improvement was statistically significant, a paired-samples t-test was conducted. The analysis yielded a t-value of 4.016. With 22 degrees of freedom and a significance level of 0.05, the corresponding critical t-value from the t-distribution table is 1.713. Because the obtained t-value exceeded the critical value ($4.016 > 1.713$), the null hypothesis was rejected, and the alternative hypothesis was accepted.

This result indicates that the difference between the pretest and posttest mean scores is statistically significant and unlikely to have occurred by chance alone. Within the limitations of the pre-experimental design, the findings support the conclusion that the implementation of the PBL model had a significant positive effect on students' speaking ability in oral presentations of short stories.

B. Qualitative Observations of Change

Beyond numerical scores, classroom observations during the PBL intervention provided further insight into the nature of students' improvement. Initially, many students appeared hesitant to speak, often avoiding eye contact and using very soft voices. Their presentations tended to be fragmented, with frequent pauses, fillers, and unclear articulation. Group discussions were dominated by a few more vocal students, while others remained largely silent.

As the PBL cycles progressed, several positive changes were observed. First, students became more engaged in group discussions. When faced with a story-based problem, they were motivated to share their interpretations and opinions about the characters' actions and possible solutions. This interactive environment encouraged quieter students to contribute, as they could speak first in the smaller, less intimidating context of a group before addressing the entire class.

Second, the quality of the presentation content improved. Students began to structure their presentations more logically, including an introduction, explanation of the story and its problem, discussion of solutions, and concluding remarks. This organization reflected a deeper comprehension of the story and better planning for how to convey it to an audience.

Third, delivery aspects, such as pronunciation, volume, intonation, and fluency, showed noticeable enhancements. Through repeated practice and feedback, students learned to speak more clearly and audibly, use intonation to highlight important points, and reduce unnecessary pauses and fillers. Confidence also increased, as indicated by more frequent eye contact with the audience, reduced signs of nervousness, and a greater willingness to volunteer for speaking roles.

These qualitative observations align with the quantitative data, reinforcing the interpretation that PBL contributed to both the cognitive and affective dimensions of speaking ability.

C. Discussion

The results of this study are consistent with theoretical claims regarding the benefits of PBL for language learning and speaking development. PBL emphasizes student-centred inquiry, collaboration, and communication. When students work together to analyze a problem embedded in a story, they must articulate their understanding, justify their opinions, and negotiate meaning—all of which require the active use of spoken language. This process naturally provides repeated opportunities to practise speaking in a meaningful context (Sadiyani et al., 2025).

From a cognitive perspective, PBL supports deeper content processing. Instead of memorizing plot details superficially, students engage in higher-order thinking about the story: identifying the central conflict, exploring causes and consequences, considering alternative resolutions, and extracting moral or social lessons. This deeper engagement helps students internalize the material and retrieve it more coherently during presentations. Organized and meaningful content, in turn, facilitates smoother delivery, as students understand what they want to say rather than relying on rote memorization (Ghofur et al., 2025).

From a socio-constructivist viewpoint, PBL aligns with the idea that learning occurs through social interaction and the co-construction of knowledge. Group discussions during PBL sessions allowed students to learn new vocabulary, expressions, and ways of structuring arguments by listening to peers and jointly constructing presentations. This collaborative environment may be particularly beneficial for students who initially lack confidence, as they can contribute partially and receive support from group members before taking on more prominent speaking roles.

Affective factors also explain the improvement observed. PBL can reduce speaking anxiety by embedding speaking tasks within cooperative problem-solving rather than in isolated, high-stakes performance situations. Students practice speaking repeatedly in small groups before addressing the entire class, which can gradually desensitize them to the fear of speaking in public. The sense of shared responsibility within groups also spreads the pressure among members and fosters a supportive climate. As students experience success in presenting their group's ideas, their self-confidence grows, leading to more positive attitudes towards speaking tasks (Teixeira & Almeida, 2025).

The findings of this study corroborate previous studies that have reported positive effects of PBL on learning outcomes and speaking skills. Earlier work in Indonesian language education showed that PBL increased students' active participation and achievement, as students were encouraged to question, discuss, and apply concepts rather than passively receiving information. Studies focusing more specifically on speaking have reported that problem-based tasks, particularly those requiring explanation and argumentation, led to improvements in fluency, coherence, and communicative confidence (Fahjri et al., 2025).

The present study adds to this body of evidence by demonstrating significant gains in speaking ability in the context of short-story-based learning at the primary level. The large increase in the proportion of students achieving the mastery criterion (—from 9% to 87%) —is particularly noteworthy, suggesting that PBL can help bring the majority of students up to an acceptable standard rather than benefiting only a small subset. Moreover, the improvement was not limited to cognitive aspects such as content organization; delivery factors, such as pronunciation, volume, and confidence, also improved, indicating that PBL can support holistic speaking development.

Several pedagogical implications can be drawn from the findings. First, teachers of Bahasa Indonesia at the primary level are encouraged to adopt PBL as an alternative or complementary model for teaching speaking through literary texts. Rather than treating short stories solely as reading materials for comprehension questions, teachers can use them as contexts for problem analysis and oral reporting. This shift can transform students' roles from passive readers to active interpreters and presenters.

Second, careful planning and scaffolding are essential for successful PBL implementation. Teachers should select stories that contain clear, age-appropriate problems and design guiding questions that prompt analysis and interpretation. They should also provide explicit instruction and modelling on how to prepare and deliver effective presentations, including aspects such as structuring ideas, using appropriate language, and managing voice and body language. Regular feedback on these aspects can accelerate improvement.

Third, classroom management strategies must support collaborative work. Group composition should be considered to ensure a mix of abilities and personalities, and clear expectations for participation should be communicated. Time must be allocated not only for discussion but also for rehearsal, as practice is crucial for developing fluency and confidence.

Although the results of this study are encouraging, several limitations must be acknowledged. The research employed a one-group pretest–posttest design without a control group, which restricts the ability to attribute changes exclusively to the PBL intervention. Other factors, such as maturation or exposure to speaking tasks in other lessons, could also have contributed to the improvement. Future studies should consider quasi-experimental or experimental designs with comparison groups to strengthen causal inferences.

The sample size was relatively small and drawn from a single class in one school, limiting the generalizability of the findings. Replication in different schools, regions, and grade levels would help determine whether similar effects can be observed in other contexts. Additionally, the duration of the intervention was modest. Longer-term studies could examine whether gains in speaking ability are sustained over time and whether continued use of PBL leads to further improvements.

Finally, this study focused primarily on quantitative test scores. Although observational notes provided some qualitative insights, more systematic qualitative data, —such as student interviews, reflective journals, or audio/video recordings of presentations, —could enrich the understanding of how PBL influences students' speaking development and attitudes.

IV. CONCLUSIONS

This study examined the effect of a problem-based learning (PBL) model on fifth-grade students' speaking ability in oral presentations of short stories at State Elementary School 108 Aekmata. The initial condition of students' speaking performance, as reflected in a mean pretest score of 65.43 and a low proportion of students achieving mastery, indicated substantial room for improvement. After implementing PBL in short-story-based Indonesian language lessons, the mean speaking score increased to 84.82, and the percentage of students reaching the mastery criterion rose sharply to 87%. A paired-samples t-test confirmed that this improvement was statistically significant, with the obtained t-value exceeding the critical value at the 0.05 significance level. The findings suggest that PBL can effectively enhance students' speaking ability, not only in terms of content organization and comprehension of stories but also in delivery aspects such as pronunciation, volume, fluency, and confidence. By engaging students in collaborative problem solving, discussion, and oral reporting, PBL creates rich opportunities for meaningful speaking practice and supports the development of critical and creative thinking. Although the study's design and scope impose limitations on generalization, the results provide strong practical indications that PBL is a promising model for improving oral presentation skills in primary school Indonesian language classes. Teachers and schools are therefore encouraged to integrate PBL into their instructional repertoire, and future research can build on these findings through more rigorous designs, broader samples, and deeper qualitative exploration of students' experiences.

Funding Statement

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Ethical Compliance

All procedures performed in the studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committees and the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Data Access Statement

A data access statement is a section in a scientific publication or research report that explains how the data used or generated in the study can be accessed by readers or other researchers. This statement aims to promote transparency, support research reproducibility, and comply with applicable open access policies.

Common Elements in a Data Access Statement:

1. Data Location: Specifies where the data are stored, for instance, in online repositories (e.g., Zenodo, Dryad, or institutional repositories).
2. Access Instructions: Provides information on how to access the data, such as direct links, Digital Object Identifier, or contact details.
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1. Open Data:
 - "The data supporting this study are openly available in Zenodo at [DOI:10.xxxx/zenodo.xxxx]."
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 - "No datasets were generated or analyzed in the current study."
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Purpose of a Data Access Statement:

- Reproducibility: Enables other researchers to replicate or verify the findings.

- Collaboration: Encourages further collaboration by sharing data.
- Compliance: Adherence to the policies of funding agencies or journals that require open access to data.

Conflict of Interest Declaration

The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interest in the subject matter or materials discussed in this manuscript.

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