



Analysis of project-based learning implementation on indonesian language mastery of fifth-grade students

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Article info	Abstract
Keywords: elementary school, indonesian language mastery, project- based learning, qualitative study	The present study analyzes the process and impact of implementing the PjBL model on fifth-grade elementary students' mastery of Indonesian language materials. The study employed a qualitative approach, with data collected through observation, interviews, tests, and documentation. The tests were used to support qualitative findings rather than for quantitative analysis. The study focused on implementing the PjBL model and assessing its impact on students' mastery of the learning materials. The findings reveal that implementing the PjBL model successfully created meaningful learning experiences. Pre-test results indicate differences in students' initial achievement levels. After implementing the PjBL model, students' learning outcomes improved, particularly among those who previously scored lower, while the highest scores remained relatively stable. These results indicate an overall improvement in students' understanding of the material, as reflected in increased scores. Interview findings reveal that students were more actively engaged, more motivated, and found it easier to understand the material through direct participation in project-based activities. This study is expected to contribute to educational research by enhancing understanding of the implementation of the PjBL model in elementary schools and to serve as a reference for educators and future researchers.

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1. Introduction

Education is one of the most vital instruments for advancing a nation by developing high-quality human resources. As time progresses, the quality of human resources must be continuously improved through education, as it provides essential values that enable individuals to adapt to change. Education in Indonesia has undergone various stages of curriculum development over time; therefore, it must continue to be implemented and adjusted in accordance with existing needs and principles (Alfianti et al., 2024). In the current era, education no longer merely encourages students to acquire and memorize knowledge, but also emphasizes

mastery and the ability to apply knowledge meaningfully in real-life situations. Students are required to adapt to ongoing changes in order to develop skills that align with contemporary demands. Twenty-first-century education requires students to master critical thinking, creativity, communication, and collaboration skills in order to respond effectively to societal challenges and developments (Wahyuni et al., 2025). These demands position students as active agents in the learning process, responsible for constructing knowledge and skills through exploration, interaction, and the interpretation of learning experiences. Learning that actively involves students plays a significant role in fostering intrinsic motivation, which influences attitudes and self-confidence.

When students' motivation is directed positively, they tend to develop empowering attributes, such as self-confidence and a willingness to strive for optimal outcomes when facing challenges (Nernere & Budiraharjo, 2025). In classroom instruction, teachers need to establish interactions and communication that create meaningful learning experiences for students. Interaction and communication are fundamental human needs; therefore, language becomes a crucial component of these interactions (Rahmaningtyas & Putriyanti, 2024). Effective communication in delivering instructional content is essential in the learning process. Students need to understand the material presented by the teacher in order to achieve content mastery. They also need to comprehend the meaning of classroom interactions in accordance with the messages conveyed by the teacher (Santos, 2025). Challenges in Indonesian language learning highlight the need to focus on student engagement to support the development of a solid understanding of content. As a subject taught at the elementary school level, Indonesian language instruction plays a crucial role in enhancing students' knowledge and skills. Therefore, the learning process should be designed in context to align with the developmental characteristics of elementary school students, serving as a foundation for developing thinking skills, language proficiency, and attitudes.

Based on classroom observations, several problems were identified, indicating that students have not been able to optimally comprehend teachers' explanations during instruction, as reflected in low levels of content mastery. The primary issue identified in this study is students' low mastery of Indonesian language content, particularly in procedural texts. Students have difficulty understanding the material when learning activities rely solely on listening to explanations, without direct student involvement. This condition indicates that instruction remains predominantly one-directional and has not fully addressed students' learning needs. Content mastery is defined as students' ability to demonstrate cognitive processes of remembering, understanding, applying, analyzing, evaluating, and creating (Krathwohl, 2002). Based on this concept, students are considered successful when they can retain information, comprehend the material, apply concepts to solve problems, analyze relationships among components, evaluate concepts against specific criteria, and create products derived from their knowledge. Factors influencing learning outcomes, including content mastery, comprise internal, external, and learning-process factors (Sudjana, 2019). Thus, content mastery is not determined merely by individual ability but is also influenced by the methods used to present instructional material.

In line with this theoretical perspective, classroom observations indicate that numerous students experience difficulties in understanding Indonesian language material, influenced not only by internal abilities but also by learning processes still dominated by lecture-based methods with limited student involvement. A lack of instructional variation and the dominance of lectures tend to make students passive, easily bored, and less focused during learning activities (Sutinah & Putriyanti, 2024). The use of inappropriate learning models can further hinder students'

understanding of the material (Pratiwi et al., 2025). These conditions demonstrate the need for learning processes that align with the curriculum and actively engage students so that they can construct their own understanding through meaningful learning experiences (Safitri et al., 2023). Effective learning should provide students with opportunities to participate directly in the learning process through discussion, exploration, and authentic experiences.

Learning that promotes active student engagement is essential so that students do not merely receive information but can build understanding through learning experiences. Through each learning activity, students gain direct experiences that can enhance their learning creativity (Fitriani et al., 2023). Active learning emphasizes direct student participation, which contributes to improved content mastery, particularly in Indonesian language instruction. One learning model that aligns with active learning principles is Project-Based Learning, a model that aims to enhance students' communication skills and critical thinking abilities (Salsabila & Hindun, 2024). In addition, this model utilizes real-world problems as learning contexts to train students in critical thinking, problem-solving, and the construction of understanding, knowledge, and core concepts of the learning material (Azzahra et al., 2023). Therefore, Project-Based Learning is considered a relevant instructional approach for improving students' understanding and content mastery in a more meaningful way.

Previous studies have shown that the implementation of Project-Based Learning has a positive effect on students' learning outcomes, as indicated by the achievement of minimum mastery criteria (Mujadid et al., 2023). However, these studies primarily emphasize learning outcomes, while the implementation process and its impact on content mastery have not been examined in depth. Therefore, further research is needed to analyze the implementation process and its impact on students' content mastery. This study aims to analyze and describe the implementation of the Project-Based Learning model and its impact on Indonesian language content mastery among fifth-grade elementary school students. The research findings are expected to provide empirical insights into the application of Project-Based Learning in Indonesian language instruction and to serve as a reference for educators seeking to optimize student-centered learning at the elementary school level.

2. Literature review

Classroom learning often faces challenges due to a lack of innovation in both teaching media and methods, which can result in monotonous learning experiences and a failure to engage students effectively (Alifa et al., 2024). Supporting this, other studies have revealed that the sustainable use of conventional teaching models and repetitive individual assignments may lead students to feel bored, collaborate less with peers, and develop a limited understanding of the material (Cahyaningsih et al., 2020). These challenges underscore the necessity of implementing innovative learning models that emphasize active student engagement. One such model is Project-Based Learning (PjBL), which has enhanced students' communication, critical thinking, and collaborative skills (Salsabila & Hindun, 2024). When properly implemented, PjBL enables students to relate academic content to real-world experiences while fostering systematic and collaborative thinking (Damayanti et al., 2025). The skills developed through this approach support comprehensive mastery of the subject matter, including remembering, understanding, applying, analyzing, evaluating, and creating—core indicators of material mastery (Krathwohl, 2002).

The effectiveness of PjBL relies on structured and well-defined procedures that maximize active student participation. The model is comprised of six steps: posing driving questions or

challenges, designing the project plan, developing the project timeline, monitoring student engagement and project progress, testing the project outcomes, and evaluating the overall learning experience (Larmer et al., 2015). This systematic framework not only promotes meaningful student involvement but also ensures that each stage of the learning process is purposeful and reflective. Consequently, PjBL emphasizes not only the achievement of learning outcomes but also the development of higher-order thinking, collaboration, and deep understanding, positioning it as a highly relevant, contextually grounded approach to enhancing the quality of education.

3. Method

This study employed a qualitative approach to gain an in-depth understanding of the implementation process of the Project-Based Learning (PjBL) model and its impact on fifth-grade students' mastery of Indonesian language content in elementary schools. A qualitative approach was applied, as it allows researchers to explore data comprehensively through direct observation, interviews, and documentation, emphasizing meaning rather than generalization (Abdussamad, 2021). The research data consist of primary and secondary data. Primary data were obtained through classroom observations, interviews with students, teachers, and the principal, tests assessing the impact of PjBL, and learning modules collaboratively developed by teachers and researchers. Secondary data include documentation of learning activities, test sheets, administrative documents, and relevant literature, such as journals, articles, and previous studies (Sujarweni, 2014). The combination of these data sources provides a comprehensive overview of PjBL implementation in elementary school settings.

The research instruments include observation guidelines, test sheets, interview guides, and documentation forms. Observation guidelines were used to monitor the stages of PjBL implementation, teacher-student interactions, and group activities. Test sheets were used to assess students' mastery of the learning materials. Interview guides explored the perceptions, experiences, and responses of students, teachers, and the principal. Documentation forms were used to record written and visual evidence related to the learning process. Data collection involves four main techniques: observation, interviews, tests, and documentation. Observations were conducted during classroom sessions to examine the implementation of PjBL syntax. In-depth interviews were conducted with students, teachers, and the principal to gain insights into their experiences and perspectives. Tests were administered to assess the impact on content mastery and to support qualitative findings, rather than for quantitative analysis. Documentation gathered evidence of learning activities, instructional materials, and other supporting data.

The project implemented was titled "*Langkah Kreatif dari Barang Bekas*", serving as a platform for students to plan, execute, evaluate, and present their projects, thereby integrating learning materials with authentic experiences. Data analysis follows the model proposed by (Miles et al., 2014), which includes data collection, data reduction, data visualization, and conclusion-drawing. During data reduction, information was selected and categorized to maintain focus on the research context. The data were subsequently presented in narrative descriptions, tables, and quotations to identify patterns and relationships. The conclusion-drawing stage involved an overall interpretation aimed at answering the research questions regarding the process and impact of PjBL implementation on students' mastery of the learning materials.

4. Results

This section presents the research findings obtained through observations, interviews, tests, and documentation. The findings focus on the process and impact of implementing the Project-Based Learning (PjBL) model on fifth-grade students' mastery of Indonesian language material. They are organized by data collection technique.

4.1 Observation results

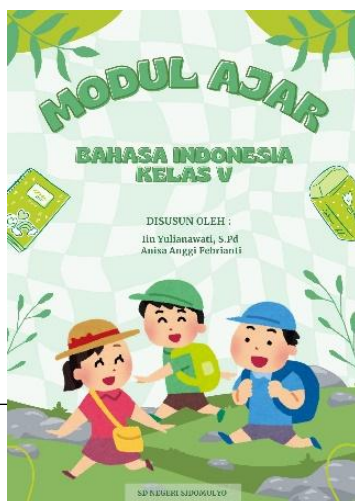
Observations were conducted to obtain an overview of the implementation process of the Project-Based Learning model in fifth-grade Indonesian language instruction. The observations focused on the activities of both teachers and students during the learning process.

Based on the observation results, the teacher successfully prepared the learning process by developing a teaching module aligned with the Project-Based Learning framework. The teaching module served as a guideline for communicating learning objectives, organizing project activities, and directing students through each stage of classroom instruction. At the beginning of the lesson, the teacher clearly communicated the learning objectives to guide the activities. Subsequently, the learning process proceeded in an active, collaborative manner, with the teacher providing direction, guidance, and feedback throughout the project's implementation. At the end of the lesson, the teacher encouraged students to conclude the learning material and evaluated them to assess their understanding. Observation of teacher activities included preparing instructional tools, communicating learning objectives, implementing the learning process, providing guidance and feedback during the project, summarizing learning outcomes, and conducting learning evaluations. Overall, the teacher's activities were categorized as good, indicating adequate readiness to manage project-based learning.

Table 1. Result of teacher activity observations

No	Aspects	Category
1.	Preparation of learning devices	Nice
2.	Conveying learning objectives	Nice
3.	Learning process	Nice
4.	Providing guidance or feedback on student projects	Nice
5.	Summarizing learning outcomes	Nice
6.	Evaluation	Nice

The implementation of instruction is supported by a project-based teaching module that systematically integrates procedural text material with structured project activities. The teaching module serves as a guideline, helping the teacher understand the sequence of learning activities and assignments, as well as the expected learning outcomes.



I. INFORMASI UMUM
A. IDENTITAS MODUL
Nama Penyusun : 1. Iin Yulianawati, S.Pd 2. Anisa Anggi Febrianti
Satuan Pendidikan : SD Negeri Sidomulyo
Jenjang Sekolah : Sekolah Dasar
Fase/Kelas : Fase C/IV
Buku/Topik : Bab III (Bergerak Bersama) / Teks Prosedur
Alokasi Waktu : 4 JP (4 x 35 menit) / 2 pertemuan
B. PROFIL PELAJAR PANCASILA
1. Beriman dan Bertakwa kepada Tuhan Yang Maha Esa
2. Berkebhinekaan Global
3. Gotong Royong/Kerja Sama
4. Bermoral Kritis
5. Mandiri
6. Kreatif
C. SARANA DAN PRASARANA
1. Media
- Buku
- Media pembelajaran video tentang membuat kerajinan
- Link https://youtu.be/_FZURaYwNst?si=7kohlCK2WoYd0Zj
- Power Point materi teks prosedur
- Lembar Kerja Peserta Didik
- Sumber Belajar
- Buku Panduan Guru Bahasa Indonesia Kelas V Sekolah Dasar Kurikulum Merdeka Tahun 2025.
- Buku Siswa Bahasa Indonesia Kelas V Sekolah Dasar Kurikulum Merdeka Tahun 2025.
2. Alat
- Proyektor
- LCD
- Laptop
D. TARGET PESERTA DIDIK
Target Peserta Didik : Reguler (Umum)
E. JUMLAH PESERTA DIDIK
Jumlah Peserta Didik : 20 Peserta Didik
F. MODEL PEMBELAJARAN
Model : PjBL (Project Based Learning)

3. KOMPETENSI INTI
A. CAPAIAN PEMBELAJARAN
Peserta didik mampu menulis kata dan kalimat sederhana (tiga kata) dengan satu tema bebas gambar dari teks cerita sederhana, teks laporan sederhana, dan teks penjelasan sederhana sesuai dengan struktur atau tata bahasa.
B. TUJUAN PEMBELAJARAN
1. Melalui power point materi rpg, peserta didik dapat mengidentifikasi teks prosedur dan strukturnya dengan baik. (C2)
2. Melalui video pembelajaran, peserta didik dapat menganalisis penggunaan tata bahasa dalam teks prosedur dengan tepat. (C3)
3. Melalui proyek, peserta didik dapat menyusun teks prosedur sederhana sesuai struktur dan tata bahasa yang tepat. (C3)
C. PEMBELAJARAN BERKONSTRUKSI
Melalui perencanaan dan pembuatan proyek, peserta didik dapat memahami tentang struktur dan tata bahasa pada teks prosedur yang bermanfaat pada kehidupan sehari-hari.
D. PERENCANAAN PEMANTRE
1. Ganteng apa di atas?
2. Menurut kalian, bagaimana kita bisa membuat barang di atas? Apakah bisa kalau kita langsung membuat tanpa tahu langkah-langkahnya secara urut?
E. KEGIATAN PEMBELAJARAN
Kegiatan Pendahuluan
1. Guru membuka pembelajaran dengan menyanyikan lagu semangat sebelum peserta didik.
2. Peserta didik beraneka-seni dengan guru melakukan do'a bersama sebelum pembelajaran.
3. Guru dan peserta didik menyanyikan lagu nasional "Garuda Pancasila".
4. Guru mengecek kehadiran dan meminta peserta didik mempersiapkan perlengkapan belajar.
5. Peserta didik diberikan motivasi singkat oleh guru dengan menyanyikan lagu semangat.
6. Guru memulai pembelajaran dengan materi tentang prosedur.
7. Guru melakukan apresiasi dengan mengaitkan materi dengan permasalahan yang sering terjadi di lingkungan.
- Apakah kalian pernah melihat kerajinan dari botol plastik, kardus, atau sepotong bekal? Barang-barang yang kita anggap sampah ternyata bisa menjadi benda yang bermanfaat, jika kita membuat dan juga menjelaskan ke orang lain kita harus mau ada yang mau belajar kita sampaikan. Hari ini kita akan belajar bagaimana membuat langkah-langkah membuat sesuatu secara runtut agar orang lain yang membaca juga bisa membuatnya.

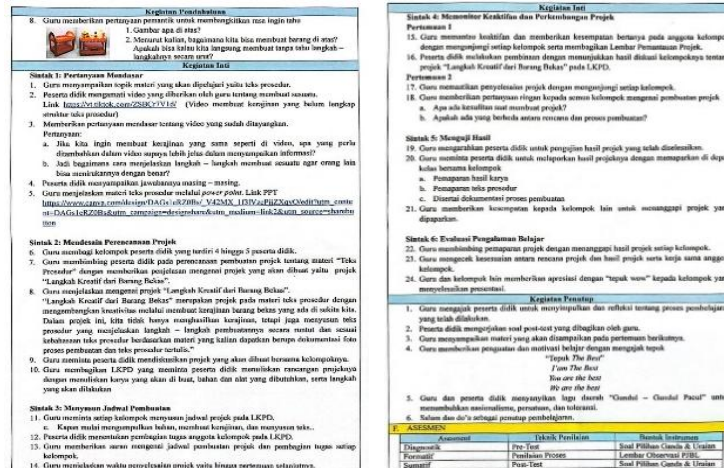


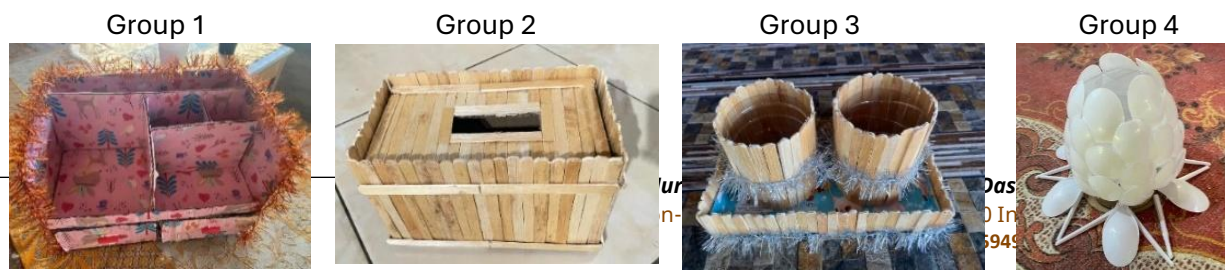
Figure 1. PjBL teaching module

Observations of student activities indicate that students are actively engaged at every stage of the learning process. Students actively participate in group discussions, project planning, activity implementation, and the presentation of project outcomes. In addition, students demonstrate effective time management skills, including completing tests within the allotted time. Observations of student activities include engagement in learning, participation in group activities, alignment between instructional materials and projects, and test completion. Overall, student engagement is categorized as good, reflecting interaction, collaboration, and responsibility throughout the learning process.

Table 2. Result of observation of student activities

No	Aspects	Category
1.	Student involvement in learning	Nice
2.	Group activities	Nice
3.	Matching material and project	Nice
4.	Working on test questions	Nice

Student engagement is reflected in the projects developed through the activity “Creative Steps from Recycled Materials.” The projects consist of crafts made from recycled materials accompanied by procedural texts describing the craft-making process. The students’ project outcomes demonstrate their ability to connect procedural text material with real-life experiences, particularly in systematically organizing the steps of the creation process.



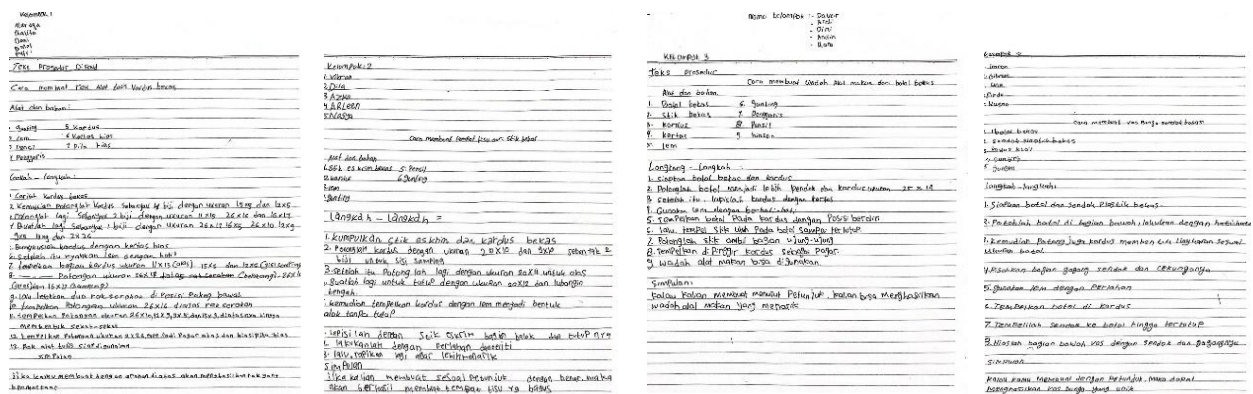


Figure 2. Student project result

These findings indicate that implementing Project-Based Learning promotes meaningful learning engagement and supports contextual mastery of Indonesian language material.

4.2 Interview results

Interviews were conducted to gain an in-depth understanding of the experiences and perceptions of students, teachers, and the principal regarding the implementation of the Project-Based Learning model in fifth-grade Indonesian language instruction. The interview results reveal positive responses to the implementation of Project-Based Learning, which provided students with an active, collaborative, and meaningful learning experience.

Students state that project-based learning increased their enthusiasm and engagement in learning because activities were conducted in groups and involved hands-on practice. Group discussions, project development, and project presentations were considered effective in helping students understand the material, particularly in systematically organizing procedural text steps. In addition, students perceived improvements in their teamwork skills, self-confidence, and willingness to express opinions during the learning process.

Teachers view the implementation of the Project-Based Learning model as fostering more equitable student engagement and enhancing interaction throughout the learning process. Project-Based Learning was considered capable of promoting active, creative, and responsible attitudes toward assigned tasks. This model also assisted teachers as facilitators in monitoring students' understanding through project activities and group work outcomes.

Meanwhile, the principal considers Project-Based Learning aligned with the development of active, meaningful learning at the school. The model was regarded as capable of integrating theoretical learning, collaborative skills, and content mastery into a single activity, thereby improving the overall quality of learning. Overall, the interview findings indicate that the school community holds positive perceptions regarding the implementation of Project-Based Learning.

4.3 Test results

The test results were used to examine the impact of Project-Based Learning on students' mastery of Indonesian language material. The tests were administered as pre-tests and post-tests to assess changes in students' understanding following participation in project-based learning.

Table 3. Student test results

Student Names	Pre – Test Scores	Post – Test Scores	Student Names	Pre – Test Scores	Post – Test Scores
AZPA	55	85	IAR	60	80
AIGA	65	95	MMS	35	65
AH	65	90	MWAV	65	90
APAG	40	70	NKP	55	75
AAFW	50	75	NDA	60	85
BH	55	85	NRDA	60	85
BMV	45	65	PMLA	35	65
DS	60	80	SSF	55	80
DKR	65	100	TSA	50	75
HZ	60	75	TMVP	70	100

Based on the presented test results, students generally reveal an improvement in their achievement scores on the post-test compared to the pre-test. This improvement indicates that students develop a better understanding of the material after participating in Project-Based Learning. Differences in students' responses before and after the instruction are also evident in the quality of their answers. The post-test results are more systematic, complete, and better aligned with the structure of procedural texts, whereas the pre-test answers remain partial and less organized.

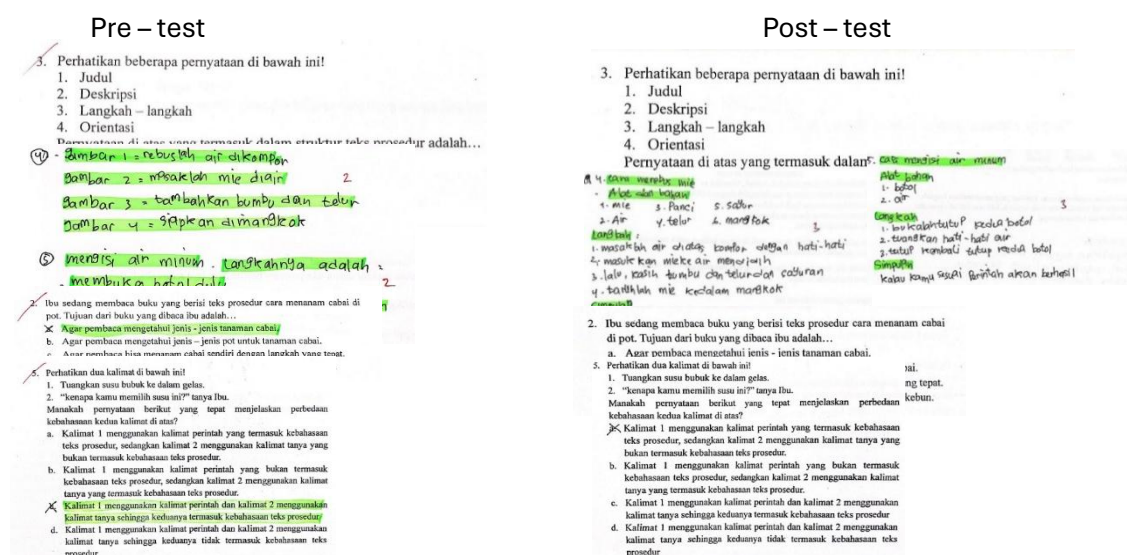


Figure 3. Student test answer sheets

In the pre-test phase, students make errors in applying the structure of procedural texts and demonstrate limited understanding of linguistic elements. After instruction using Project-Based Learning, the post-test results indicate an improvement in students' ability to compose procedural texts systematically, with accurate vocabulary and alignment with the text's intended purpose. These findings demonstrate that project-based learning not only affects test scores but also enhances students' ability to understand, apply, and organize material more accurately, particularly when composing procedural texts.

5. Discussion

The research findings indicate that the implementation of Project-Based Learning in Indonesian language instruction proceeded systematically and consistently with the syntax of project-based learning. The results reveal that the implementation process in fifth-grade Indonesian language classes was conducted systematically and aligned with the principles of student-centred learning. The core activities in the learning process involve interactions between the teacher and students, which serve as the foundation of the educational process (Efendi et al., 2023). These interactions play a crucial role in guiding instruction to ensure alignment with the predetermined learning objectives (Hanifah et al., 2020). Based on observation results, the teacher acted as a facilitator who guided, monitored, and provided feedback throughout the project-based learning process, thereby engaging students actively at every stage of instruction (Alfianti et al., 2024). This role aligns with the view that students require guidance and external support to develop into independent learners (Khoirunisa et al., 2025).

The use of a project-based teaching module and the provision of rewards for positive student behavior further strengthened learning engagement throughout the instructional process. The teacher not only delivered the material but also created a learning environment that supports students' motivation and active participation through positive reinforcement (Anggraini et al., 2019). This condition encouraged students to emulate constructive learning behaviors, both in group work and in the completion of project tasks (Sutinah & Putriyanti, 2024). By actively participating in each learning activity, students gained authentic learning experiences that contributed to an enhanced understanding of the material (Fitriani et al., 2023).

In terms of impact, the results of interviews and tests indicate that Project-Based Learning supports students' mastery of Indonesian language material, particularly in procedural text instruction. Group discussions integrated into project activities enabled students to combine various ideas, resulting in more structured and high-quality projects (Fitriani et al., 2023). Creative learning activities also fostered students' interest in participating more actively, which positively affected the quality of their responses and learning outcomes (Reksa et al., 2024). These findings emphasize the view that active student involvement in learning is more effective than passive, teacher-centered instruction (Ningrum et al., 2022).

Furthermore, test results underscore an improvement in the quality of students' answers after participating in project-based learning, indicating that project-based activities support the retention of knowledge and skills in students' long-term memory (Utami et al., 2023). Assessment conducted by teachers during the instructional process and of learning outcomes played an essential role in monitoring the achievement of learning indicators and the development of students' mastery of the material (Wibowo et al., 2023). Actively and meaningfully implemented Indonesian language instruction from the elementary school level not only contributes to material mastery but also supports the development of positive attitudes and character in students (Asyidiq et al., 2025). With these characteristics, Project-Based Learning can be applied not only to Indonesian language instruction but also to other subjects that emphasize both content mastery and process skills.

6. Conclusion and implications

Based on the research findings, the implementation of the Project-Based Learning model in fifth-grade Indonesian language instruction was systematic and aligned with the principles of active, student-centred learning. The implementation process, organized into project-based stages, fostered active student engagement, strengthened teacher-student interactions, and

created meaningful learning experiences. The impact of Project-Based Learning was reflected in improved students' mastery of Indonesian language material, particularly in their ability to understand and compose procedural texts in a more structured, systematic, and contextual manner. Thus, this study demonstrates that Project-Based Learning is effective in supporting both the process and outcomes of Indonesian language instruction at the elementary school level.

These findings have implications for the development of educational science, particularly in Indonesian language learning at the elementary level, as they provide empirical evidence that Project-Based Learning is a relevant instructional model for enhancing students' mastery of the material through active student engagement. This study contributes to the literature on project-based learning by emphasizing the relationship between implementation and its impact on material mastery. Furthermore, the research results may serve as a reference for future research in developing and adapting the Project-Based Learning model in other learning contexts that emphasize process skills and active learning.

Declaration of competing interest

The authors declare that they have no financial conflicts of interest or personal relationships that could have influenced the results or interpretation of the research reported in this manuscript.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly accessible due to the inclusion of information related to human participants, which must be kept confidential to protect participants' privacy.

Ethical Declaration

This study involved human participants and was conducted in accordance with the principles of the Declaration of Helsinki. All participants provided informed consent prior to their involvement in the study. They were fully informed about the objectives of the research, the procedures to be undertaken, and their right to withdraw at any time without any consequences.

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Declaration of AI statement

A small portion of this manuscript was prepared and/or edited with the assistance of ChatGPT. The authors used this tool solely to support minor improvements in grammar, clarity, and the initial drafting of certain sections. All AI-assisted content has been carefully reviewed, revised, and validated by the authors, who take full responsibility for the final content of the manuscript.

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