

## **Improving Students' Procedural Text Writing Skills Through Project-Based Learning**

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Article History: Received on 2 February 2026, Revised on 22 February 2026,  
Published on 7 April 2026

**Abstract:** This study aims to improve the procedural text writing ability of fifth-grade students at SDN 3 Banyuasin II through the implementation of the Project Based Learning (PjBL) model. Classroom Action Research (CAR) was conducted over multiple cycles, each comprising planning, action implementation, observation, and reflection. Subjects were 25 fifth-grade students in the 2025/2026 academic year. Data were collected through observation and written tests, using student activity observation sheets and a procedural text writing rubric assessing title, objectives, tools/materials, and steps. Analysis employed descriptive quantitative and qualitative techniques. The PjBL model proved highly effective in improving writing abilities. Student learning completion increased dramatically from 16% at initial condition to 88% at the final cycle, surpassing the established Learning Objective Achievement Criteria (KKTP). This significant improvement demonstrates that project-based learning enhances both student engagement and the quality of procedural text composition. The research provides empirical validation of PjBL's effectiveness specifically for procedural text writing at the elementary level, a genre requiring sequential, practical skill demonstration. Teachers can adopt the PjBL model as a proven strategy for developing structured writing competencies, with the observed assessment rubric serving as a practical evaluation tool. The study contributes classroom-based evidence supporting project-based approaches for foundational literacy development, demonstrating how active, collaborative learning can transform writing instruction outcomes.

**Keywords:** Classroom Action Research, Project Based Learning, Writing Procedural Texts

### **A. Introduction**

Writing is a language skill that plays a crucial role in various aspects of human life, including education, the workplace, and daily activities (Bora, 2023). In education, writing ability is often used as a benchmark to assess a person's level of critical thinking, creativity, and understanding of a topic. Tarigan (2008), in his book "Writing as a Language Skill," defines writing as the process of expressing ideas, thoughts, emotions, and opinions in written form so that they can be understood by others. This

skill goes beyond simply stringing words together; it also requires the ability to think logically, structuredly, and systematically. One of the main obstacles to developing writing skills is the low interest in reading and writing among school and college students (Susanto et al., 2020; Svensson et al., 2021). Based on research by Nurjamal (2019) in his journal entitled "Problematics of Writing Learning in Elementary Schools," published in the Indonesian Language and Literature Education Journal, volume 4 (1), it was found that the majority of students experience difficulty developing ideas and organizing them into coherent and logical writing. Furthermore, a lack of understanding of writing structure and rules also hinders the production of quality written work. This situation emphasizes the importance of a deep understanding of writing concepts as a foundation for improving writing skills.

Writing also plays a vital role in everyday life. Writing is not merely a matter of taking notes or composing words but also a thought process used to communicate ideas, information, or feelings in writing (Fitrianto et al., 2023; Fyfe, 2023). Writing serves as an effective means of communication, a medium for conveying messages, and a platform for self-expression. In education, writing is a fundamental skill that every individual must master (Pandya & Saiyad, 2025). In the fifth-grade independent curriculum, specifically for Indonesian Language, there are Learning Outcomes (CP) that require students to be able to write various types of texts, such as narratives, descriptions, recounts, procedures, and expositions, using varied sentence structure, detailed and accurate information, and covering a variety of topics. Students are also expected to be skilled at writing in cursive. In Chapter 3, which discusses self-expression through hobbies, the main focus is on writing procedural texts about creating creative works. The learning outcome of writing procedural texts is crucial for achieving learning objectives.

A procedural text is a type of writing that aims to provide instructions or guidance to the reader on how to do something. Typically, this text consists of steps to follow to achieve a specific result. The use of procedural text is very common in various fields, such as cooking, product assembly, and technology tutorials. Widyastuti (2022), in her book "Guide to Writing Effective Procedural Texts," states that procedural texts facilitate the transfer of knowledge from the writer to the reader in a structured and systematic manner. The ability to write good procedural texts is crucial because it provides readers with clarity regarding the steps required to complete a task. In the workplace, procedural texts serve to maintain consistency in task execution and minimize errors. Sutanto (2023), in his book "Efficiency and Productivity Through Procedural Texts," emphasizes that clear and detailed procedural texts can increase efficiency and productivity and reduce the risk of errors due to lack of understanding. Effective procedural texts must include several important elements, such as the purpose, the tools and materials needed, and the steps to be followed. Each step needs to be explained clearly and logically for easy comprehension by the reader. Lestari (2023), in her book "Creating Clear and Effective Procedural Texts," recommends

using simple and direct language so that instructions can be understood by all groups, including beginners.

Improving the ability to write procedural texts is also closely related to the goals of basic education, which emphasize literacy development to prepare students to face the challenges of the 21st century (Avdiu et al., 2024; Mirra & Garcia, 2021). Kartini & Dewi (2021), in their research journal "Implementation of Pancasila in Elementary School Education," published in the *Citizenship Journal*, volume 5(1), explain that implementing Pancasila values in elementary schools includes strengthening communication skills, both verbally and in writing, including accuracy in conveying written instructions such as procedural texts. This strengthening of literacy will shape students' critical and adaptive character in various academic and social situations. However, Mustadi (2020), in his book "Foundations of Elementary School Education," revealed that many students still experience difficulties in writing procedural texts due to a lack of experience, a lack of understanding of procedural elements, and a low interest in reading nonfiction texts. This fact underscores the need to optimize learning strategies that can support the development of knowledge and practice in writing procedures effectively. Therefore, the low ability to write procedural texts among elementary school students is a major issue that requires immediate solutions and learning innovations to align with national education goals.

A similar situation was also found among fifth-grade students at SDN 3 Banyuasin II. In the Indonesian language subject at SDN 3 Banyuasin II, the Learning Objective Achievement Criteria (KKTP) threshold is set at 70. This means that students are considered to have achieved learning mastery if they obtain a score above 70. Observations conducted by researchers in September 2024 during the learning process of writing procedural texts revealed several obstacles. Initial observations conducted at that time indicated that the majority of fifth-grade students experienced difficulties in composing procedural texts. An evaluation of 25 fifth-grade students at SDN 3 Banyuasin II in the 2025/2026 academic year revealed that only 4 students (16%) were able to write procedural texts with correct structure and adequate vocabulary, thus achieving a score above the KKTP, or above 70, in Indonesian. Meanwhile, 21 students (84%) failed to achieve this score. These findings indicate that students' procedural text writing skills are still relatively low. Therefore, efforts are needed to improve students' writing skills, particularly in procedural text writing.

Several factors contributing to low procedural text writing proficiency include the use of traditional learning methods, where teachers often use monotonous lectures and lack active student engagement. Furthermore, available learning resources are less varied and less engaging. A lack of writing practice is also a contributing factor, as students are rarely given challenging writing assignments that foster their creativity. To address these issues, strategies that address the root cause are needed, one of which is the implementation of the Project-Based Learning (PjBL) model. This model emphasizes active and collaborative learning, where students are directly involved in

real-life projects relevant to their lives. PjBL is an approach that encourages students to produce tangible products or work through a series of activities. By implementing PjBL, students will actively identify problems, design, implement, and present solutions or work related to the learning material. This approach is highly relevant to teaching procedural text writing, as all stages of PjBL require students to write down work steps, create instructions, and document the results of group work systematically and logically.

Rahmawati stated in her research that implementing a PjBL model can improve students' ability to write procedural texts. Through project implementation, students become more active and have the opportunity to develop critical thinking and creativity. The results showed a significant improvement in the structure and clarity of procedural text writing among students who participated in PjBL learning. PjBL provides students with hands-on experience in the process of writing procedural texts through project work, thereby developing their writing skills (Rahmawati et al., 2023). The implementation of PjBL not only improves students' writing skills but also helps them understand the subject matter more deeply.

Meanwhile, Lestari (2023), in her book "Menyusun Teks Prokasi yang Jelas dan Efektif," conducted research at the elementary school level and found PjBL is an effective strategy for improving students' writing skills, particularly in procedural text creation. By involving students in projects related to everyday life, their learning motivation increases, and their writing becomes more structured and informative. Project-based learning creates an interactive and inspiring learning environment, thus encouraging students to write better. The novelty of this classroom action research, conducted based on the aforementioned background, is the application of the PjBL model based on digital collaboration to improve procedural text writing skills in fifth-grade students at SDN 3 Banyuasin II. Unlike previous studies that only positioned PjBL as a means of developing writing skills through simple physical projects, this research presents innovation by integrating the use of digital media, such as the creation of simple video tutorials and the exploration of online learning resources. With this strategy, students not only work on procedural text writing projects based on real-life experiences but are also encouraged to utilize technology as a literacy tool and a platform for self-expression.

This approach has several key innovations:

1. **Creating Innovative Project Products:** In addition to writing procedural texts, students are tasked with creating simple digital products, such as instructional videos or infographics depicting the steps of the procedures they have written. These products are then presented to the class and discussed together.
2. **Optimizing Online Learning Resources:** Teachers enrich the material by directing students to search for procedural text references from various trusted sources online, thereby broadening their horizons and deepening their understanding of various procedural texts.

Another innovation lies in the emphasis on developing digital literacy skills while simultaneously increasing interest in reading and writing through contextual activities relevant to 21<sup>st</sup> century needs. This model is expected to create more engaging learning, increase motivation, and significantly improve procedural text writing skills in fifth-grade students at SDN 3 Banyuasin II.

## **B. Methods**

This research was conducted at SDN 3 Banyuasin II, South Sumatra, for one month, namely in October 2025. This research was conducted in two cycles; each action that had been carried out was evaluated and improved continuously in the next cycle. The subjects in this study were 25 fifth-grade students of SDN 3 Banyuasin II in the 2025/2026 academic year, consisting of 13 male students and 12 female students. The research used in this study was Classroom Action Research (CAR), which was designed to solve the problem of low procedural text writing skills in fifth-grade students of SDN 3 Banyuasin II. This study used the spiral CAR model developed by Kemmis and McTaggart, which consists of four main stages in one cycle, namely, planning, acting, observing, and reflecting. This research was carried out repeatedly in two or more cycles until the problem was solved and the expected results were achieved. CAR is a form of research conducted by teachers in their own classrooms in a reflective, collaborative, and ongoing manner, with the goal of improving teaching practices and student learning outcomes through a planned and systematically evaluated cycle of actions. This research design includes a general overview of the implementation of the CAR that will be carried out. The research is planned to take place in one cycle, consisting of two meetings. If the expected target is not achieved in that cycle, the research can be continued to the next cycle. Before entering the main cycle, a pre-cycle stage is first conducted to obtain an overview of the conditions of the classroom that will be the object of the research.

### **1. Action Planning**

In the planning stage, researchers/teachers take the following steps:

- a. Identify the problem through initial observations and analysis of student learning outcomes related to procedural text writing skills.
- b. Formulate the research objective, namely, to improve fifth-grade students' procedural text writing skills through the implementation of the PjBL model.
- c. Develop learning materials, including teaching modules, project worksheets, assessment guidelines, and learning media (examples of procedural texts, videos, etc.).
- d. Determine the criteria for success of the action, for example, a minimum of 80% of students achieving the KKTP on the procedural text writing assignment.
- e. Prepare research instruments, such as observation sheets for student and teacher activities and a rubric for assessing student writing.

- f. Schedule the implementation time for each cycle of the action according to the school academic calendar.

## 2. Implementation of the Action

Implementation of the action using the PjBL learning scenario generally involves the following stages, which are implemented in each cycle:

- a. The teacher opens the lesson and explains the learning objectives and benefits of writing procedural texts.
- b. The teacher divides students into small groups to undertake a procedural text creation project based on a given theme.
- c. Students, in their groups, choose a topic and independently design the procedural steps with the teacher's guidance.
- d. Students conduct simple observations/field data collection, then write a draft procedural text, paying attention to structure and language rules.
- e. Each group presents their written work to the class to receive feedback from the teacher and their peers.
- f. The teacher provides assessment, feedback/corrections, and reflections with students regarding the project results and any obstacles encountered.
- g. Students revise the text based on the feedback.

## 3. Observation and Interpretation

Observations are conducted throughout the CAR implementation process in each cycle, including:

- a. Observation objects: student activity, group collaboration, achievement of PjBL steps, and results of writing procedural texts.
- b. Instruments: observation sheets for student and teacher activities, documentation of student work, and assessment rubrics.
- c. Scheduling and Interpretation: observations are conducted from planning through project implementation until the end of the cycle.
- d. Observations are conducted by the teacher/researcher.

## 4. Analysis and Reflection

- a. Analysis is conducted on:
  - 1) Observation results of student and teacher activities.
  - 2) Student writing or product results (using an assessment rubric).
  - 3) Student KKTP scores.
  - 4) Student/teacher responses and feedback.
- b. Identification of weaknesses and causes:
  - 1) For example, weaknesses in writing structure, inactive group work, or insufficient mastery of the material/language are found.
  - 2) Solutions are sought: modifying the learning scenario, strengthening guidance, or using more appropriate media.

- c. Improvement plan:
  - 1) Making adjustments to the PjBL steps for the next cycle based on the reflection results.
- d. Reflection procedure:

Reflection is conducted with the collaborator/teacher after the cycle ends.

  - 1) Information sources: observation results, student work, and field notes.
  - 2) Tools: assessment rubric and observation sheet.
  - 3) Analysis method: quantitative data analysis (percentage of KKTP achievement, average score), qualitative data (observation results, reflection notes), and triangulation between instruments.

## 5. Closing

This procedure is carried out cyclically until the learning outcomes are achieved, namely, until there is a significant improvement in the ability to write procedural texts according to the success criteria.

In terms of process, at least 75% of students are actively involved in the learning process. In terms of results, at least 75% of students experience an improvement in their learning outcomes. Therefore, in CAR with the implementation of the project-based learning model, it can be said to be successful and can be stopped if it has met the requirements of the percentage of student activity during this learning process, which has reached more than 75%. The final score of students in the subject of writing procedural texts is at least equal to the KKTP score set by the school, namely 70. Class completion is said to be complete if the number of students who have achieved the KKTP score is 75% of the total number of students in the class.

The research data sources are as follows:

- 1. Data Type
  - a. Procedural Text Writing Skills
    - 1) Data in the form of student-written procedural texts before and after implementing the Project-Based Learning (PjBL) model.
    - 2) Grades or scores for student writing assignments.
    - 3) Data on common errors found in writing procedural texts (title, purpose, tools and materials, steps).
  - b. Student Activity and Response Data
    - 1) Data on observations of student activities during the learning process using the PjBL model.
    - 2) Data from short interviews with students regarding the application of the PjBL model in teaching procedural text writing.
  - c. Teacher Activity Data
    - 1) Data from observations of teacher learning implementation while using the PjBL model.
    - 2) Teacher reflections on obstacles and successes when implementing the PjBL model.

## 2. Data Sources

- a. Fifth-grade students of SDN 3 Banyuasin II  
As the main subjects who produced written data (procedural text products), activities during learning, and provided responses through interviews.
- b. Fifth Grade Teacher at SDN 3 Banyuasin II  
As the implementer of learning and source of data through reflection and observation during the action process.
- c. Learning Documents  
In the form of syllabi, teaching modules, student activity sheets, student assignments/assessment sheets, and observation instruments used during the research.

The data collection techniques used were observation, tests, and documentation. To ensure the validity of data in CAR, instrument validation was carried out using triangulation techniques.

## C. Results and Discussion

Based on observation data and analysis of pre-cycle learning outcomes, the fifth-grade students of SDN 3 Banyuasin II's procedural text writing skills are still relatively low. The average student learning outcome score in the pre-cycle phase was only 60.25, which is still below KKTP of 70. The percentage of students who did not complete the course was also high, at 16%. This low writing ability is strongly suspected to be due to the conventional learning methods still predominantly used by teachers, namely lectures without activities that motivate direct student involvement. This method does not provide enough stimulus for students to develop strong writing skills, particularly in writing procedural texts, which require an understanding of structure, language rules, and factual experience. The implementation of the PjBL model in this study was conducted in two cycles, with an emphasis on digital collaboration integration.

In the first cycle, the teacher introduced the PjBL concept, where students not only wrote procedural texts based on real-life experiences but were also introduced to creating simple digital media such as infographics that simulate procedural steps. Students were encouraged to work in groups, seek references from trusted online sources, collect data, and discuss the project's outcomes. The collaborative process became more effective in Cycle II. Students actively explored online learning resources, edited their own videos, and presented their digital projects to the class. The teacher acted as a facilitator, providing feedback and ensuring the effective use of technology without detracting from the primary learning objective of improving procedural text writing skills.

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In cycle I, only 20% of students were highly active and 32% were moderately active. However, in cycle II, there was a significant increase, with 68% of students highly active, 28% active, and only 4% moderately active. There were no more inactive students. The success of the digital collaboration-based PjBL implementation process is reflected in the increase in average student learning outcomes. In cycle I, the average score rose to 74.25 and further increased in cycle II to 83.25, exceeding the KKTP of 70. The completion percentage also increased dramatically, from 16% in the pre-cycle to 52% in cycle I, and finally reaching 96% in cycle II. This means that almost all students were able to achieve the established success indicators. Based on pre-cycle data, the procedural text writing skills of fifth-grade students at SDN 3 Banyuasin II are still relatively low. The average score achieved by students was only 60.25, below KKTP of 70, with 16% of students failing to complete the course. This low achievement is strongly suspected to be related to the use of conventional lecture methods that minimize student interaction and active participation. This aligns with behaviorist theory, which argues that one-way learning tends to be less effective in developing complex skills such as writing procedural texts, which require an understanding of structure, appropriate language use, and hands-on practical experience (Mubarok et al., 2025).

This lack of stimulus, contextual experience, and student involvement results in a weak mastery of the structure and language of procedural texts. Students tend to have difficulty systematically organizing logical steps, pay less attention to language, and lack creativity in conveying instructions informatively. The implementation of the PjBL model was carried out in two cycles, with an emphasis on digital collaboration.

In the first cycle, PjBL was introduced by engaging students in writing procedural texts based on real-life experiences, supported by the creation of simple digital infographics. Students were divided into groups, gathered references from the internet, and encouraged active discussion. The teacher shifted from being the primary source of information to facilitator and motivator. The results of the first cycle showed an increase in learning activity: 20% were very active, 32% were moderately active, and the rest were active. Project products also became more varied and engaging thanks to digital exploration.

In the second cycle, digital collaboration was optimized. Students were more active in searching for online resources, editing their own video tutorials, and presenting digital projects to the class. These activities provided contextual learning experiences, combining writing, digital communication, and collaboration skills. As a result, the percentage of very active students increased to 68%, active to 28%, and only 4% were moderately active. This aligns with constructivism theory (Vygotsky), which states that language skills will develop optimally when students are actively involved in social and collaborative processes and learn with the support of technology relevant to 21<sup>st</sup> century needs (Shadiev & Wang, 2022). PjBL is also believed to be effective in improving critical thinking skills, creativity, and digital literacy (Aswan et al., 2024). After two cycles of implementing digital collaboration-based PjBL, there was a significant improvement in procedural text writing skills. The average student learning outcomes were:

1. Pre-cycle: 60.25
2. Cycle I: 74.25
3. Cycle II: 83.25

The completion rate also increased from 16% (pre-cycle) to 52% (cycle I) and finally to 96% (cycle II). This indicates that almost all students successfully achieved the established success indicator, which exceeded the 70-point KKTP. The skills developed included not only the ability to write procedural texts structurally and linguistically, but also the ability to create simple digital products, communicate effectively, and build confidence in presentations. By exploring online sources, the language and content of students' procedural texts became richer and more creative and relevant to contemporary learning needs. These research findings support the findings of Warastuti et al. (2025), who stated that PJBL can improve motivation and procedural text writing skills in elementary schools. Suteja & Setiawan (2022) demonstrated the effectiveness of PJBL in improving elementary school students' writing outcomes. Suryani et al. (2024) emphasized that integrating digital technology with PJBL improves the quality of elementary school students' procedural text writing.

Pianon et al. (2025) demonstrated that implementing PJBL in conjunction with AI improves the writing skills of vocational high school students. PjBL can improve science learning outcomes and student motivation (Nurhidayah et al., 2021; Turyati et

al., 2020). However, most of the aforementioned studies still position PjBL as a means of developing writing skills through simple physical or non-digital projects, without comprehensively integrating digital media or developing collaborative digital literacy. The main novelty of this research lies in the application of digital collaboration-based PJBL to improve elementary school students' procedural writing skills. This research innovation includes:

1. Creating innovative project products in the form of instructional videos/infographics that are presented and discussed in class.
2. Optimizing online learning resources to enrich references and deepen mastery of a wider variety of procedural texts.
3. Strengthening digital literacy students are encouraged not only to learn to write but also to utilize technology as a means of literacy and self-expression.

This digital collaboration approach has not been widely explored in similar studies at the elementary school level especially from the aspect of technology integration in teaching procedural writing. With this strategy, not only are procedural writing skills developed, but also 21<sup>st</sup> century learning skills such as digital literacy, collaboration, and creativity. Thus, this research can serve as a reference and important contribution to the practice and development of digital-based literacy education in elementary schools.

#### **D. Conclusion**

This classroom action research, conducted over two cycles with fifth-grade students at SDN 3 Banyuasin II, conclusively demonstrates that the PjBL model, enhanced with digital collaboration, significantly improves procedural text writing skills. The key finding is a dramatic and progressive increase in student performance. From a pre-cycle average of 60.25 with only 16% completion, implementation of PjBL in Cycle I raised the average to 74.25 with 52% completion. Optimization of digital collaboration in Cycle II through online resources, video tutorials, and digital product presentations further elevated the average to 83.25, achieving 96% learning completion. Equally significant was the surge in student engagement, with very active students increasing from 20% in Cycle I to 68% in Cycle II, eliminating less active categories entirely. Beyond writing mastery, students concurrently developed digital literacy, communication, collaboration, and creativity skills, validating the hypothesis and affirming constructivist principles of social interaction and technology integration. The primary novelty of this research lies in its integration of digital media and online collaboration within elementary-level procedural writing instruction. Students produced not only written texts but also digital artifacts such as infographics and instructional videos, enriching contemporary literacy practices. This dual-output model demonstrates that writing instruction can simultaneously advance traditional competencies and essential 21<sup>st</sup> century skills. The practical implications are substantial. For teachers, the model offers a replicable framework for transforming conventional, lecture-dominated instruction into active, participatory learning

applicable across text genres. Teachers must evolve into facilitators, guiding students in creative expression and digital tool use. For schools, optimizing technology facilities and providing structured student guidance are essential prerequisites. Educational policymakers should reference these findings to develop curriculum-wide policies integrating technology and project-based learning. For future research, several recommendations emerge. Longitudinal studies could assess the sustainability of skill gains and their transfer to other writing genres. Comparative research across different grade levels and school contexts would test the model's generalizability. Investigating the specific contribution of each digital collaboration component videos, online resources, peer feedback could refine implementation. Finally, research exploring teacher professional development needs for effectively implementing such digitally-enhanced PjBL models would support broader adoption.

### **E. Acknowledgement**

We would like to express our acknowledgment to our respondents, colleagues who helped us in this article.

### **References**

- Aswan, D. M., Aina, M., & Natalia, D. (2024). The Effectiveness of Project-Based Learning to Improve Critical Thinking Skills. *Jurnal Penelitian Pendidikan IPA*, 10(12), 10316–10320. <https://doi.org/10.29303/jppipa.v10i12.6410>
- Avdiu, E., Bekteshi, E., & Gollopeni, B. (2024). Learning Skills for the Future – Implementing the 21st-Century Learning. *Multidisciplinary Science Journal*, 7(1), 2025011. <https://doi.org/10.31893/multiscience.2025011>
- Bora, P. (2023). Importance of Writing Skill to Develop Students' Communication Skill. *Journal for Research Scholars and Professionals of English Language Teaching*, 7(35). <https://doi.org/10.54850/jrspelt.7.35.009>
- Fitrianto, I., 'Aimah, S., Hamid, R., & Mulalic, A. (2023). The Effectiveness of the Learning Strategy "Think, Talk, Write" and Snowball for Improving Learning Achievement in Lessons Insyah' at Islamic Boarding School Arisalah. *International Journal of Post Axial: Futuristic Teaching and Learning*, 13–22. <https://doi.org/10.59944/postaxial.v1i1.142>
- Fyfe, P. (2023). How to Cheat on Your Final Paper: Assigning AI for Student Writing. *AI & Society*, 38(4), 1395–1405. <https://doi.org/10.1007/s00146-022-01397-z>
- Kartini, D., & Dewi, D. A. (2021). Implementation of Pancasila in Elementary School Education. *Jurnal Kewarganegaraan*, 5(1), 113–118.
- Lestari, M. (2023). *Writing Clear and Effective Procedural Texts*. Surabaya: Graha Pustaka.
- Mirra, N., & Garcia, A. (2021). In Search of the Meaning and Purpose of 21st-Century Literacy Learning: A Critical Review of Research and Practice. *Reading Research Quarterly*, 56(3), 463–496. <https://doi.org/10.1002/rrq.313>
- Mubarok, A. S., Yusuf, K., & Fikri, A. H. A. (2025). Behaviorist-Cognitivist Integration

- in Arabic Writing Instruction. *International Journal of Arabic Language Teaching*, 7(02), 223–238. <https://doi.org/10.32332/ijalt.v7i02.10690>
- Mustadi, A. (2020). *The Foundation of Elementary School Education*. (Vol. 174). Uny Press.
- Nurhidayah, I. J., Wibowo, F. C., & Astra, I. M. (2021). Project Based Learning (PjBL) Learning Model in Science Learning: Literature Review. *Journal of Physics: Conference Series*, 2019(1), 012043. <https://doi.org/10.1088/1742-6596/2019/1/012043>
- Nurjamal. (2019). Problems of Learning to Write in Elementary Schools. *Jurnal Pendidikan Bahasa dan Sastra Indonesia*, 4(1), 45–46.
- Pandya, I., & Saiyad, A. (2025). From Struggle to Mastery: Writing as a Transformative Skill in Second Language Learning. *Journal of English Language Teaching*, 67(2), 32–37. <https://doi.org/10.66121/8azwy335>
- Pianon, K., Tep, P., & Thitayanuwat, W. (2025). Enhancing AI Literacy in Junior High School Students through a Constructionist Project-Based Learning Approach. *2025 10th International STEM Education Conference (ISTEM-Ed)*, 1–6. <https://doi.org/10.1109/iSTEM-Ed65612.2025.11129417>
- Rahmawati, D., Marsia, Y., & Prakoso, A. F. (2023). The Use of Project Based Learning Model to Improve Learning Outcomes in Economics Subjects for Class X-4 Students at SMA Negeri 17 Surabaya. *Jurnal Tarbiyah dan Ilmu Keguruan Borneo*, 4(2), 145–153. <https://doi.org/10.21093/jtikborneo.v4i2.6562>
- Shadiev, R., & Wang, X. (2022). A Review of Research on Technology-Supported Language Learning and 21st Century Skills. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.897689>
- Suryani, N. Y., Rizal, S., Rohani, T., & Ratnaningsih, H. (2024). Improving Learners' English Writing Skills through Digital Technology and Project-Based Learning. *Jurnal Ilmiah Ilmu Terapan Universitas Jambi*, 8(1), 21–34. <https://doi.org/10.22437/jiituj.v8i1.32506>
- Susanto, A., A Malik, A. M., & Mitrayati, M. (2020). The Challenges of Learning English As a Foreign Language Among Undergraduate Students. *Inovish Journal*, 5(1), 1. <https://doi.org/10.35314/inovish.v5i1.1341>
- Sutanto, A. (2023). *Efficiency and Productivity Through Procedural Texts*. Bandung: Media Edukasi.
- Suteja, S., & Setiawan, D. (2022). Students' Critical Thinking and Writing Skills in Project-Based Learning. *International Journal of Educational Qualitative Quantitative Research*, 1(1), 16–22. <https://doi.org/10.58418/ijeqqr.v1i1.5>
- Svensson, I., Nordström, T., Lindeblad, E., Gustafson, S., Björn, M., Sand, C., Almgren/Bäck, G., & Nilsson, S. (2021). Effects of Assistive Technology for Students with Reading and Writing Disabilities. *Disability and Rehabilitation: Assistive Technology*, 16(2), 196–208. <https://doi.org/10.1080/17483107.2019.1646821>
- Tarigan, H. . (2008). *Writing as a Language Skill*. Bandung: Angkasa.
- Turyati, T., Hartati, S., & Nugraheni, N. (2020). Effectiveness of Project Based Learning (PjBL) to Improve Natural Science Learning Outcomes of Grade IV Students. *Elementary School Teacher*, 3(1). <https://doi.org/10.15294/est.v3i1.27921>

- Warastuti, A., Setiyadi, D. B. P., Haryono, P., & Hersulastuti. (2025). Improving Students Procedural Writing Skills through Project Learning with Canva Utilization. *Journal of Educational Management Research*, 4(6), 3105–3119. <https://doi.org/10.61987/jemr.v4i6.1485>
- Widyastuti, R. (2022). *Guide to Writing Effective Procedural Texts*. Jakarta: Penerbit Ilmu.