

Implementation of Project-Based Learning in Increasing the Concern of Class V Students of SDN 3 Tanjung towards Environmental Damage in Science Learning

Dwi Rela Abdillah Khabib¹, Subuh Anggoro²

¹SDN 3 Tanjung, Purwokerto Selatan, Banyumas

²Universitas Muhammadiyah Purwokerto

ARTICLE INFO

Article history:

DOI:

[10.30595/pssh.v25i.1754](https://doi.org/10.30595/pssh.v25i.1754)

Submitted:

July 22, 2025

Accepted:

August 11, 2025

Published:

August 24, 2025

Keywords:

Project-Based Learning;
Environmental Concern;
Elementary School

ABSTRACT

Implementation of Project-Based Learning in Increasing Awareness of Fifth Grade Students of SDN 3 Tanjung towards Environmental Damage in Science Learning. This study aims to describe the implementation of the Project-Based Learning (PjBL) model in learning the theme of environmental damage in fifth grade students of SDN 3 Tanjung and analyze the increase in students' awareness of environmental damage after the implementation of the PjBL model. The research method used was a quasi-experimental with a one group pretest-posttest design. The subjects of the study were all fifth grade students of SDN 3 Tanjung, totaling 25 people. The research instruments included an environmental awareness attitude questionnaire, student involvement observation sheets, and a project product assessment rubric. Data analysis used descriptive statistics and paired sample t-test. The results showed a significant increase in students' awareness of the environment after the implementation of PjBL, indicated by an increase in the average score from 64.8 (pretest) to 81.2 (posttest) and a significance value of $p < 0.05$. Thus, the implementation of Project-Based Learning is effective in increasing students' awareness of environmental damage.

This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).



Corresponding Author:

Dwi Rela Abdillah Khabib

SDN 3 Tanjung, Purwokerto Selatan, Banyumas

Email: dwirela6@gmail.com

1. INTRODUCTION

A. Background Of The Problem

Environmental damage is a global issue that must be introduced to students early on. Based on the results of initial observations at SDN 3 Tanjung, it was found that the level of environmental awareness of fifth grade students was still low, as indicated by the habit of littering and lack of involvement in environmental conservation activities. Traditional learning methods that are lecture-based have not been able to foster an attitude of concern optimally. Therefore, an approach is needed that actively involves students, one of which is through the Project-Based Learning (PjBL) model. PjBL emphasizes direct student involvement in designing and implementing projects based on real issues such as environmental damage, so that it is expected to increase students' awareness and concern for the surrounding environment.

B. Problem Formulation

1. How is the application of the Project-Based Learning model in learning about environmental damage in Science Learning in class V of SDN 3 Tanjung?
2. How is the increase in students' awareness of environmental damage after the application of the Project-Based Learning model?

C. Research Objectives

1. Describe the application of the Project-Based Learning model in learning about environmental damage in Science Learning in class V of SDN 3 Tanjung.
2. Analyze the increase in students' concern for environmental damage after the application of the Project-Based Learning model.

D. Benefits Of Research

1. Theoretical
Contributing to the development of project-based learning models in elementary education, especially in fostering environmental awareness.
2. Practical
 - a. For Teachers: Being an alternative learning strategy to increase students' awareness of the environment.
 - b. For Students: Fostering real experiences in protecting the environment.
 - c. For Schools: Supporting the Adiwiyata school program (environmentally aware schools).

E. Literature Review (BRIEF)

- a. Project-Based Learning (Thomas, 2000; Bell, 2010) is a learning model that encourages students to acquire knowledge and skills by working within a certain period of time to investigate and respond to complex questions, problems, or challenges.
- b. Environmental Concern is an active attitude and behavior in maintaining, preserving, and improving the environment (Hungerford & Volk, 1990).

2. RESEARCH METHOD

Aspect	Details
Research Type	Quasi-experimental with One Group Pretest-Posttest design.
Research Subjects	Fifth grade students of SDN 3 Tanjung, academic year 2023/2024.
Data Collection Technique	Observation, environmental awareness questionnaire, student project documentation.
Research Instrument	Observation sheet involvement, environmental awareness attitude scale questionnaire, project assessment rubric.
Data Analysis Technique	Descriptive analysis and statistical test (t-test for pretest-posttest).

2.1 Steps for Implementing PJBL in Research

- a. Providing Real Problems: "How to reduce plastic waste in our school?"
- b. Preparation of Project Plans: Students are divided into groups, making a plastic reduction campaign plan.
- c. Project Implementation: Making posters, educational videos, plastic-free inter-class competitions.
- d. Presentation of Results: Each group presents their project to the entire school community.
- e. Reflection and Evaluation: Joint discussion about changes in environmental care behavior.

2.2 Research Schedule

No.	Activity	Time
1.	Proposal Preparation	May 2023
2.	Instrument Preparation and Validation	June 2023
3.	Pretest Implementation	July 2023
4.	PjBL Implementation	July–August 2023
5.	Posttest Implementation	August 2023
6.	Data Analysis	September 2023
7.	Thesis Report Preparation	October 2023

3. RESULTS AND DISCUSSIONS

The results of the study showed a significant increase in the environmental awareness of fifth grade students of SDN 3 Tanjung after the implementation of the Project-Based Learning model. This is in line with the

theory put forward by Thomas (2000) and Bell (2010) that PjBL is effective in building critical thinking skills, collaboration, and social attitudes of students, including concern for real problems such as environmental damage. The active involvement of students in the plastic waste reduction campaign project allows them to experience firsthand the importance of protecting the environment.

The process of working in groups, sharing ideas, and creating real products increases their awareness that small efforts can make positive changes. This study also strengthens the results of previous studies such as Astuti (2021) and Setiawan (2020) which concluded that the implementation of PjBL can increase environmental awareness and attitudes in elementary school students. Thus, the Project-Based Learning model can be an effective strategy to be applied in learning that aims to form an environmentally conscious character in students.

4. CONCLUSIONS

Based on the results of the research and discussion that has been carried out, several things can be concluded the implementation of the Project-Based Learning (PjBL) Model in learning about environmental damage in class V of SDN 3 Tanjung runs effectively. This model involves students in real activities such as plastic waste reduction campaign projects, making educational media, and school greening, which increases students' active involvement in the learning process. There is a significant increase in the level of student concern for environmental damage after the implementation of Project-Based Learning.

This is evidenced by an increase in the average score of the environmental concern questionnaire from 64.8 in the pretest to 81.2 in the posttest, as well as the results of the t-test which shows a significance value of $p < 0.05$. The Project-Based Learning Model can be an effective alternative to develop environmental care characters in elementary school students, through real experiences, team collaboration, creativity, and direct reflection on environmental issues.

REFERENCES

- Astuti, R. (2021). Implementasi Project-Based Learning dalam Pembelajaran IPA untuk Meningkatkan Kepedulian Lingkungan Siswa SD. *Jurnal Pendidikan Dasar*, 12(1), 45–53.
- Bell, S. (2010). *Project-Based Learning for the 21st Century: Skills for the Future*. The Clearing House, 83(2), 39–43.
- Bell, S. (2010). Project-Based Learning for the 21st Century: Skills for the Future. *The Clearing House*, 83(2), 39–43. <https://doi.org/10.1080/00098650903505415>
- Buck Institute for Education. (2003). *Project-Based Learning Handbook: A Guide to Standards-Focused Project-Based Learning for Middle and High School Teachers*. Novato, CA: BIE.
- Grant, M. M. (2011). Learning, Beliefs, and Products: Students' Perspectives with Project-Based Learning. *Interdisciplinary Journal of Problem-Based Learning*, 5(2), 37–69. <https://doi.org/10.7771/1541-5015.1254>
- Hungerford, H. R., & Volk, T. L. (1990). *Changing Learner Behavior Through Environmental Education*. The Journal of Environmental Education, 21(3), 8–21.
- Hungerford, H. R., & Volk, T. L. (1990). Changing Learner Behavior Through Environmental Education. *The Journal of Environmental Education*, 21(3), 8–21. <https://doi.org/10.1080/00958964.1990.10753743>
- Krajcik, J. S., & Blumenfeld, P. C. (2006). Project-Based Learning. In R. K. Sawyer (Ed.), *The Cambridge Handbook of the Learning Sciences* (pp. 317–334). Cambridge: Cambridge University Press.
- Ningsih, S. (2019). Pengembangan Media Proyek Lingkungan untuk Pembelajaran IPS di SD. *Jurnal Pendidikan dan Pembelajaran*, 25(2), 112–120.
- Setiawan, R. (2020). Pengaruh Pembelajaran Berbasis Proyek terhadap Sikap Peduli Lingkungan Siswa SMP. *Jurnal Pendidikan Lingkungan*, 8(1), 75–84.
- Sugiyono. (2018). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Thomas, J. W. (2000). *A Review of Research on Project-Based Learning*. The Autodesk Foundation.
- Thomas, J. W. (2000). *A Review of Research on Project-Based Learning*. San Rafael, CA: Autodesk Foundation.