

Project Based Learning as a Creative Breakthrough to Improve Students' Learning Outcomes and Cultural Awareness

Vijayanti Aulia¹, Herinto Sidik Iriansyah², Alam Slamet Barkah³

^{1,3} Primary School Teacher Education Study Program, STKIP Kusuma Negara, Jakarta, Indonesia

²Pancasila and Citizenship Education Study Program, STKIP Kusuma Negara, Jakarta, Indonesia

[*vijayantiaulia@stkipkusumanegara.ac.id](mailto:vijayantiaulia@stkipkusumanegara.ac.id)

Abstract

This study aims to improve students' learning outcomes in Science and Social Studies (IPAS) on the topic of Indonesia's cultural and ethnic diversity through the implementation of the Project Based Learning (PjBL) model. The research employed a Classroom Action Research (CAR) design conducted with fifth-grade students at MIN 18 Jakarta during the 2024/2025 academic year, involving 29 participants. Data were collected through observations, tests, interviews, and documentation. The results revealed that PjBL significantly enhanced students' engagement and academic achievement. In the first cycle, the mastery level reached 44.82%, and in the second cycle, it increased to 82.75%, exceeding the school's minimum mastery criterion of 70. These findings indicate that PjBL fosters students' critical thinking, collaboration, and creativity, leading to improved learning outcomes and a more meaningful learning experience.

Keywords: Classroom Action Research (CAR), Cultural Awareness, Learning outcomes, Project Based Learning

1 INTRODUCTION

Education plays a crucial role in producing quality human resources capable of facing global challenges. One way to improve the quality of education is through the role of teachers in designing meaningful, active, and enjoyable learning. At the elementary school level, the Natural and Social Sciences (IPAS) subject is developed as an integration of the natural and social sciences, with the goal of helping students understand the relationship between natural phenomena and social life. One alternative to address these issues is to implement the Project-Based Learning (PjBL) model. This model positions students as the primary learning subjects through direct involvement in the planning, implementation, and presentation of project results relevant to real life. PjBL is believed to enhance critical thinking, creativity, collaboration, and communication skills, while fostering student motivation to learn.

Learning outcomes are the abilities acquired after the learning process, which can lead to behavioral changes in students' knowledge, understanding, attitudes, and skills, improving them from their previous experiences.

It is important to remember that learning outcomes are changes in overall behavior, not just one aspect of human potential. This means that learning outcomes, categorized by educational experts as being viewed fragmentarily or separately, are comprehensive.

Learning is also defined as a change in human personality, manifested in the form of improvements in the quality and quantity of behavior, such as increased knowledge, skills, attitudes, understanding, thinking power, and other abilities.

However, observations at MIN 18 Jakarta indicate that fifth-grade students' learning abilities on the topic of Indonesia's ethnic and cultural diversity remain low. The average

score of 60.5 is below the school's Learning Objective Achievement Criteria (KKTP) of 70. This situation indicates that the learning model used tends to be conventional, teacher-centered, and does not provide enough space for students to be active, creative, and critical. As a result, students often feel bored and lack motivation to participate in learning.

One alternative to address these issues is to implement the Project-Based Learning (PJBL) model. This model positions students as the primary learning subjects through direct involvement in the planning, implementation, and presentation of project results relevant to real life. PJBL is believed to enhance critical thinking, creativity, collaboration, and communication skills, while fostering student motivation to learn.

Various previous studies have demonstrated the effectiveness of PJBL in improving learning outcomes and higher-order thinking skills. However, studies specifically applying PJBL to the social studies subject, specifically the diversity of Indonesian ethnicities and cultures, in elementary schools are still limited. Therefore, this study aims to analyze efforts to improve social studies learning outcomes through the application of the Project-Based Learning model to fifth-grade students at MIN 18 Jakarta in the 2024/2025 academic year.

The research results are expected to provide practical contributions for teachers in developing innovative student-centered learning strategies, as well as enrich theoretical studies on the effectiveness of PJBL in improving the quality of science learning in elementary schools.

2 RESEARCH METHODS

This study applied a Classroom Action Research (CAR) design conducted in two cycles, each consisting of four stages: planning, acting, observing, and reflecting. The research aimed to improve students' learning outcomes through the application of the Project Based Learning (PjBL) model in the Natural and Social Sciences (IPAS) subject. The participants were 29 fifth-grade students at MIN 18 Jakarta during the 2024/2025 academic year.

Data were collected through tests, observations, and documentation. Quantitative data were analyzed using the percentage of mastery learning and average score formulas:

$$P = \frac{n}{N} \times 100 \quad \bar{X} = \frac{\sum X_i}{N}$$

where P = learning mastery percentage, n = number of students achieving ≥ 70 , N = total students, and $\bar{X}$ = mean score. Qualitative data from observations were analyzed descriptively to evaluate students' activeness, collaboration, and engagement during the learning process.

3 RESULT AND DISCUSSION

3.1 Results

The research findings are divided into three stages: Pre-Cycle, Cycle I, and Cycle II. Each stage represents the progression of students' learning outcomes after the application of the *Project Based Learning (PjBL)* model.

3.1.1 Pre-Cycle

The pre-cycle phase was conducted to identify the baseline condition of students' learning achievement in the Integrated Natural and Social Sciences (IPAS) subject, particularly on the topic "Diversity of Indonesian Ethnic Groups and Cultures." The diagnostic assessment indicated that students' performance remained below the school's Minimum Mastery Criteria (KKTP) of 70.

The average score achieved in this phase was 62,24, with only 6 out of 29 students (20.7%) meeting the mastery threshold, while 23 students (79.3%) failed to achieve it. Observations revealed that students tended to be passive, relying heavily on teacher explanations and exhibiting limited engagement in discussions. The learning process was dominated by conventional instructional methods, resulting in minimal collaboration, critical questioning, and student participation.

These findings demonstrated the need for a more engaging instructional model that promotes student-centered learning and active involvement to enhance understanding of cultural diversity concepts.

3.1.2 Cycle I

The first cycle implemented the Project-Based Learning (PjBL) model to foster active participation and improve conceptual understanding. Students worked collaboratively in small groups to conduct mini-projects related to Indonesia's cultural diversity.

During this phase, the average learning outcome improved to 65,51, with 13 students (44.82%) meeting the KKTP benchmark. Compared to the pre-cycle phase, this represented a 24.12% increase in mastery level. Students showed greater enthusiasm in exploring topics, exchanging ideas, and presenting findings. However, some students still experienced challenges in time management, data organization, and teamwork coordination.

Classroom observations indicated that students began to shift from passive learning to active exploration. Despite these improvements, the reflection stage suggested that further scaffolding was needed particularly in guiding project planning, clarifying task distribution, and supporting group collaboration.

3.1.3 Cycle II

Cycle II was designed as a refinement of the initial implementation, emphasizing deeper inquiry, creativity, and reflective collaboration. Adjustments were made to improve group coordination, teacher facilitation, and the use of digital and visual media for project outputs. Students were tasked to design cultural representation projects such as posters, models, or multimedia presentations depicting Indonesia's ethnic diversity.

The outcome of Cycle II demonstrated a significant advancement in both academic achievement and student engagement. The average score reached 78,44, with 24 students (82.75%) achieving mastery a substantial improvement from both the pre-cycle and Cycle I results.

Students exhibited higher self-confidence, responsibility, and enthusiasm in presenting their projects. The classroom environment became more interactive and dynamic, characterized by meaningful discussion, inquiry-based learning, and peer feedback. These results confirm that the Project-Based Learning model effectively enhanced not only cognitive achievement but also students' motivation, creativity, and collaboration skills in IPAS learning.

3.2 Discussion

The findings from each cycle reveal a progressive improvement in students' learning performance after the implementation of the Project Based Learning (PjBL) model. The increase in the percentage of students achieving mastery—from 20.7% in the pre-cycle, to 44.82% in Cycle I, and finally 82.75% in Cycle II—demonstrates that PjBL effectively enhances students' understanding, motivation, and participation in the learning process.

This improvement can be attributed to several key factors. First, the PjBL model encourages active learning through inquiry and project creation, allowing students to connect theoretical knowledge with real-life contexts. Second, collaborative activities promote social interaction and teamwork, which are essential for developing communication and problem-solving skills. Third, reflective discussions conducted at the end of each cycle help students evaluate their performance and identify areas for improvement.

The results of this study align with previous research (e.g., Zativalen et al., 2022; Nababan et al., 2023), which concluded that Project Based Learning enhances cognitive achievement, creativity, and student engagement. Moreover, these findings support the constructivist learning theory, emphasizing that knowledge is built through experience, exploration, and social interaction rather than passive reception.

Overall, the discussion confirms that the Project Based Learning model is an effective pedagogical strategy for improving students' learning outcomes and fostering essential 21st-century skills such as critical thinking, collaboration, creativity, and communication.

3.3 Table

The results of the study were obtained from three phases: Pre-Cycle, Cycle I, and Cycle II. The data demonstrate a significant improvement in students' learning outcomes after the implementation of the Project Based Learning (PjBL) model in the Natural and Social Sciences (IPAS) subject.

Table 1. Recapitulation of Students' Learning Achievement from Pre-Cycle to Cycle II

Learning Phase	Average Score	Students Achieving Mastery (≥ 70)	Percentage of Mastery (%)	Students Not Achieving Mastery (< 70)	Percentage Not Mastery (%)	Description of Learning Progress
Pre-Cycle	62,24	6	20.7	23	79.3	Learning outcomes were still low; most students had difficulty understanding the material because learning was still teacher-centered.
Cycle I	65,51	13	44.82	16	55.18	Students became more active and engaged in project work, but some still needed guidance in presenting and summarizing results.
Cycle II	78,44	24	82.75	5	17.25	There was a significant improvement in mastery and collaboration. Students demonstrated better understanding, communication, and creativity.

Based on Table 1, there was a steady and substantial improvement in students' learning achievement:

1. Pre-Cycle Phase:

The average score of 62,24 and mastery percentage of 20.7% indicate that most students had not achieved the learning objectives. Classroom activities were dominated by lectures and lacked active engagement.

2. Cycle I Phase:

After implementing the Project Based Learning model, the average score rose to 65,51, and the mastery level reached 44.82%. Students began to participate actively in group discussions and project creation. However, not all students were confident in communicating their findings, and some still depended on teacher guidance.

3. Cycle II Phase:

In this phase, students showed remarkable progress. The average score increased to 78,44, and mastery rose sharply to 82.75%, surpassing the target of KKTP (70). The learning atmosphere became more collaborative, creative, and student-centered.

3.4 Image

KISI-KISI SIKLUS II MIN 19 JAKARTA TAHUN AJARAN 2024/2025 KEBERAGAMAN Suku DAN BUDAYA INDONESIA MATERI BUMAH ADAT					
No	Capaian Pembelajaran	Indikator Soal ¹	Level Kognitif (Bloom's Revisi)	Bentuk Soal	Skor Maksimal
1	Mengidentifikasi keberagaman budaya	Mengidentifikasi arti keberagaman suku, bahasa, rumah adat, dan tradisi	C2 (Memahami)	Pilihan Ganda	1
2	Mengidentifikasi contoh keberagaman budaya Indonesia	Menentukan contoh keberagaman budaya Indonesia	C1 (Mengingat)	Pilihan Ganda	2
3	Mengartikan budaya dengan daerah asal	Menentukan rumah adat Hani berasal dari Papua	C1 (Mengingat)	Pilihan Ganda	3
4	Mengenal rumah adat daerah	Menentukan nama rumah adat Sunda (Uma Muntaga)	C1 (Mengingat)	Pilihan Ganda	4

Figure I
Question Grid

LATHAN SOAL SIKLUS II

Nama : _____

Hari/tanggal : _____

1. Indonesia memiliki banyak suku bangsa, bahasa daerah, rumah adat, dan tradisi. Hal ini menunjukkan bahwa Indonesia kaya akan

a. Hasil pertanian
b. Keberagaman budaya
c. Kekayaan alam
d. Pakaian modern

2. Di bawah ini yang termasuk contoh keberagaman budaya Indonesia adalah

a. Perbedaan musim hujan dan kemarau
b. Perbedaan bentuk rumah adat
c. Perbedaan tinggi rendahnya gunung
d. Perbedaan jenis tanah

3. Rumah adat Hani berasal dari Papua. Hal ini merupakan salah satu contoh keberagaman

a. Alam
b. Budaya
c. Agama
d. Pekerjaan

Figure II
Cycle II Test Questions

LATHAN SOAL SIKLUS II

Nama : H. Dhuha, A. Ryda

Hari/tanggal : 25 April 2025

1. Indonesia memiliki banyak suku bangsa, bahasa daerah, rumah adat, dan tradisi. Hal ini menunjukkan bahwa Indonesia kaya akan

a. Hasil pertanian
b. Keberagaman budaya
c. Kekayaan alam
d. Pakaian modern

2. Di bawah ini yang termasuk contoh keberagaman budaya Indonesia adalah

a. Perbedaan musim hujan dan kemarau
b. Perbedaan bentuk rumah adat
c. Perbedaan tinggi rendahnya gunung
d. Perbedaan jenis tanah

3. Rumah adat Hani berasal dari Papua. Hal ini merupakan salah satu contoh keberagaman

a. Alam
b. Budaya
c. Agama
d. Pekerjaan

4. Rumah adat Sunda yang memiliki atap tinggi menjulang disebut

a. Rumah Joglo

Figure III
Cycle II Score Results

3.5 Equations

The percentage of learning mastery was calculated using Equation (1):

$$P = \frac{n}{N} \times 100 \quad \{1\}$$

where:

P = Percentage of learning mastery

n = Number of students achieving the minimum score (≥ 70)

N = Total number of students

$$\bar{X} = \frac{\sum X_i}{N} \quad \{2\}$$

where:

$\bar{X}$ = Mean (average) score
 $\sum X_i$ = Total of all students' scores
 N = Total number of students

$$\Delta P = P_t - P_{t-1}$$

where:

ΔP = Percentage improvement between cycles
 P_t = Mastery percentage of the current cycle
 P_{t-1} = Mastery percentage of the previous cycle

4 CONCLUSION

The implementation of the Project Based Learning (PjBL) model in the Natural and Social Sciences (IPAS) subject significantly improved students' learning outcomes and engagement. The mastery percentage increased progressively from 20.7% in the pre-cycle to 44.82% in Cycle I, and finally to 82.75% in Cycle II, surpassing the minimum mastery criterion (KKTP = 70).

This improvement indicates that PjBL effectively enhances students' conceptual understanding, collaboration, creativity, and motivation. The learning process became more student-centered, allowing learners to explore, communicate, and construct knowledge through meaningful projects.

Furthermore, the findings confirm that Project Based Learning supports the development of 21st-century skills critical thinking, communication, collaboration, and creativity while also aligning with the constructivist learning theory, which emphasizes learning through active participation and real-world application.

Therefore, the Project Based Learning model can be recommended as an effective pedagogical approach to enhance learning outcomes and engagement in elementary education, particularly in the IPAS subject.

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