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Comparison of the Application of the Problem Based Learning (Pbl) Model with the Project Based Learning (Pjbl) Model of Critical Thinking Skills and the Results of Writing Description Essays for Class V Students Cluster 1 Bajeng District, Gowa Regency

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ABSTRACT

This study was a Quasi Experimental study that aims (1) to describe students' critical thinking abilities through the Problem Based Learning (PBL) model of class V Elementary School Cluster 1, Bajeng District, Gowa Regency, (2) to describe students' descriptive writing abilities through the Project Based Learning (PjBL) model of class V Elementary School Cluster 1, Bajeng District, Gowa Regency, (3) to determine the differences between the PBL model and the PjBL model in improving critical thinking abilities and descriptive writing results of class V students of Elementary School Cluster 1, Bajeng District, Gowa Regency. The population in this study were students of grade V of SD Gugus 1 Bajeng District, Gowa Regency and the sample in this study were students of grade Va SD Negeri Panciro and grade Vb SD Negeri Panciro, each class consisting of 23 students. Data collection techniques used in this study were observation, learning outcome tests, and documentation. Data were analyzed using descriptive and inferential analysis. The results of the descriptive analysis showed that critical thinking skills increased through the PBL learning model, this was supported by the results of the average posttest score reaching 87.65. While the ability to write descriptions also increased using the PjBL model, this was supported by the posttest score reaching 83.48. In the inferential results using the Independent Sample t-Test hypothesis test in the pretest experimental class 1 and 2 showed a probability value of 0.001 <significant level of 0.05 and Tcount of -11,532 and in the posttest experimental class 1 and 2 the probability value was 0.01 <significant level of 0.05 and Tcount -12,999 so it can be concluded that there is a significant difference between the PBL model and the PjBL model on critical thinking skills and descriptive writing results of class V students in Cluster 1, Bajeng District, Gowa Regency.

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INTRODUCTION

Learning is a complex process that involves organizing and organizing the environment around students to encourage the creation of meaningful and effective learning experiences. This process not only focuses on mastering the material, but also seeks to develop a positive attitude,

critical thinking skills, and problem-solving according to the potential of students (Ponorogo, 2020; K. L. Purwanti, 2021; Shafa, 2018). One of the important goals of learning is to facilitate students in mastering basic principles and developing skills needed in daily life (Kurniaman & Noviana, 2017; Subadi et al., 2013; Sugiyanto et al., 2021).

However, in many classrooms, learning still faces serious problems, one of which is students who tend to be passive. In this condition, the teacher is often the center of learning, while the student only listens to the explanations given. This can cause the learning atmosphere to become monotonous and students have difficulty understanding the material presented. Therefore, changes in learning approaches are needed that can create an active, creative, and fun environment for learning to be more effective and enjoyable for students.

The role of teachers in the learning process is very important, because teachers are responsible for designing, implementing, and evaluating learning (Dardiri et al., 2019; Nursalim, 2017; K. Purwanti et al., 2020). To improve the quality of learning, teachers need to choose a learning model that suits the learning objectives, which can encourage students to think critically. Innovative and effective learning models are needed, especially in Indonesian learning, such as in the material for making descriptive essays, where students are expected to play an active role and acquire good writing skills.

Writing, as a form of written communication, has a very important role in the learning process. Through writing, students can express their ideas and ideas systematically using the correct language (Alfianika, 2018; Rita, 2020; Adriana, 2021; Rofi'uddin, 1999). However, many students at the elementary school level still struggle to master writing skills, which requires a creative process and repeated practice. In writing activities, students must be skilled in utilizing the right language structure and vocabulary to convey ideas clearly.

According to Cahyaningrum (2021), writing is a language skill used to communicate, both directly and indirectly. This skill does not develop on its own, but it does require consistent practice. Therefore, writing learning in elementary school must pay attention to the development of students' writing skills through various approaches that support creativity and good language mastery.

On the other hand, even though learning objectives have been well planned, the reality is that the quality of educational processes and products is often still suboptimal. Effective learning must produce products that are in accordance with the set goals. Therefore, it is very important to pay attention to the quality of the learning process, in order to create adequate learning outcomes. Unfortunately, many students have not had the opportunity to actively participate in learning activities and develop their critical thinking skills (Ardianingsih et al., 2017; Indriani, 2015; Kurniasari, 2017).

To address this problem, innovation in learning design is needed. One of them is by implementing learning models that can increase student involvement actively, such as the Problem Based Learning (PBL) and Project Based Learning (PjBL) models. These two models can create a fun learning atmosphere while improving students' critical thinking skills.

The Problem Based Learning (PBL) model is an approach that prioritizes solving real problems as the core of learning. Through this model, students are given the opportunity to think critically and solve problems scientifically with guidance from teachers (Rosyidi, 2018). PBL can also help students develop cognitive, affective, and psychomotor skills simultaneously, as they are directly involved in the problem-solving process relevant to daily life.

Similarly, the Project Based Learning (PjBL) model has a similar approach, but focuses more on project development that engages students in activities that are both practical and contextual. In this model, students work together to complete projects that require the application of various concepts, skills, and knowledge acquired during learning. These two models are expected to make a positive contribution to the development of critical thinking skills and student learning outcomes, especially in Indonesian learning of descriptive essay material.

Based on the results of observations at SD Negeri Panciro and interviews with homeroom teachers, it was found that students' critical thinking skills are still not optimal. The average daily

score on the critical thinking test only reached 55.5, and only 15 out of 40 students managed to meet the Minimum Completeness Criteria (KKM) of 75. This shows that students' critical thinking skills have not developed well, one of which is due to the application of traditional learning methods. Therefore, this study aims to compare the application of the Problem Based Learning (PBL) and Project Based Learning (PjBL) models in improving critical thinking skills and the results of writing descriptive essays for grade V students of Cluster 1, Bajeng District, Gowa Regency.

METHODS

This study employs a quantitative approach with a quasi-experimental research design. The aim is to compare critical thinking skills and reading learning outcomes of fifth-grade students in Cluster I, Bajeng District, Gowa Regency by implementing Problem Based Learning (PBL) and Project Based Learning (PjBL) models. The design used is a non-comparable control group design, where two non-randomized experimental groups are selected as samples.

The quasi-experimental design involves two groups as samples, chosen due to limited control over external variables, which means not all changes can be fully attributed to the treatments applied (Sugiyono, 2021). Specifically, the design consists of two experimental classes: one receiving treatment with the PBL model and the other with the PjBL model. Both groups undergo a pretest before the treatment, followed by the respective learning model interventions, and conclude with a posttest to assess learning outcomes.

The population of this study includes all fifth-grade students in Cluster I, Bajeng District, Gowa Regency. According to Arikunto (2021), the population comprises the entire data set relevant to the research within a specified scope and timeframe. The sample was selected using purposive sampling, a non-random sampling method based on predetermined criteria. This approach is commonly used in quasi-experimental studies (Suharsimi Arikunto, 2010). In this study, two classes from SD Negeri Panciro (Class VA and VB) were chosen as experimental samples, each consisting of 23 students.

Data collection techniques consisted of observation to monitor and evaluate student activities during the learning process using PBL and PjBL models, tests to measure the impact of these models on student learning outcomes—administered as pretests and posttests—and documentation to collect relevant learning materials and attendance records.

Instrument validation involved two expert lecturers serving as validators. Content validity was assessed using the Gregory index formula, which measures agreement between two raters. A validity index below 0.4 indicates low validity, between 0.4 and 0.8 indicates moderate validity, and above 0.8 indicates high validity (Retnawati, 2021).

Data analysis employed both descriptive and inferential statistics. Descriptive analysis aimed to present the collected data as is, without generalization (Sugiyono, 2021), including sample size, maximum and minimum scores, range, mean, median, mode, standard deviation, and variance, using SPSS software. Inferential analysis was used to test hypotheses, preceded by normality testing via the Kolmogorov-Smirnov test and homogeneity testing via One-Way ANOVA. Data were considered homogeneous if the significance value was ≥ 0.05. The Paired Sample T-Test was then conducted to compare pretest and posttest scores in both experimental groups. If the probability value exceeded 0.05, the null hypothesis (H_0) was accepted, indicating no significant difference between pretest and posttest results.

RESULTS AND DISCUSSION

Based on research conducted on grade V students at SD Negeri Pangiro, Gowa Regency, the following are the results of the research obtained regarding the comparison of the Problem Based Learning (PBL) and Project Based Learning (PjBL) models.

1. Students' critical thinking skills through the Problem based Learning (PBL) Model

The Problem Based Learning (PBL) learning model with problem-oriented situations shows significant results in improving students' critical thinking skills. This can be seen in the teacher's observation sheet and posttest results, which show that students become more enthusiastic in answering each question given after the application of the PBL learning model. In experimental class 1, the results of the pretest showed that none of the students obtained the very good or good category, while 9 students (39.13%) were in the adequate category, and 60.86% of students were in the poor category. The average score on the pretest was 68.78, which then increased to 87.65 on the posttest after the PBL model was applied for 3 meetings.

Table 4. *Distribution of Frequency and Percentage of Critical Thinking Skills Category Students Posttest Experiment Class 1*

Value Interval	Frequency	Presentase	Category
92-100	12	55,52%	Excellent
81-91	9	37,28%	Good
75-80	2	8,69%	Enough
>75	0	0%	Less

***Sumber*, (*SPSS* Versi 30)**

The learning process using the PBL model in experimental class 1 succeeded in improving students' critical thinking skills, especially in the excellent category, which reached 55.52% after the application of this model. These results show a significant improvement in students' critical thinking skills, as seen in the pretest and posttest statistical scores that show consistent improvement. This data is also proven by a normality test that shows good data distribution.

This research is in line with the findings produced by Suari (2021) who stated that the PBL model can effectively improve students' motivation and critical thinking skills. In addition, Rina Putri Utami (2022) in her research also found that the PBL model was able to increase students' critical thinking skills higher than other learning models. The results of this study show that the use of the PBL model is very effective in improving critical thinking skills, especially in students in grade V of SD Negeri Panciro, Bajeng District, Gowa Regency.

2. Ability to Write Descriptive Essays Using Project Based Learning (PjBL) Model

The Project Based Learning (PjBL) learning model, which involves students in a descriptive essay creation project, also shows a significant improvement in students' descriptive writing skills. In the pretest, no students obtained the excellent or good category, and most students (56.87%) were in the poor category. However, after the application of the PjBL model for 4 meetings, the average score of students increased from 69.60 in the pretest to 83.48 in the posttest. This shows that the application of the PjBL model significantly improves students' descriptive essay writing skills.

This study also revealed that an increase occurred in each of the assessment criteria for writing descriptive texts, namely content, text structure, vocabulary, and grammar. In the pretest,

the highest score was recorded in the content criteria (1,635), while writing style (1,617) was the weakest area. In the posttest, all criteria experienced significant improvements, especially in content (1,958) and grammar or spelling (1,949), which showed that students were able to develop their writing skills better after the application of the PjBL model.

Although there was a significant improvement in students' writing skills, the study also showed that students were not as enthusiastic as they were on the application of the PBL model. This may be due to greater challenges in working on projects that require more intense creative thinking and collaboration. However, the increase recorded in the posttest shows that the PjBL model remains effective in improving students' descriptive essay writing skills.

These results are consistent with research conducted by Inas Nafisah (2022) which shows that the PjBL model through project creation can improve students' critical thinking skills and learning outcomes. Although the PjBL model requires more time and cooperation in groups, this model can still improve student learning outcomes, especially in writing skills.

3. The Difference Between the Problem Based Learning (PBL) Model and the Project Based Learning (PjBL) Model

Based on data analysis using the paired sample t-test, it was found that there was a significant difference between the posttest scores of experimental class 1 (PBL) and experimental class 2 (PjBL). The test results showed a significance value of 0.001, which is smaller than 0.05, so H_0 was rejected and H_1 was accepted. This indicates that the application of the two learning models provides a significant difference in improving students' critical thinking skills.

Tabel 5. Test of Normality

Data	Nilai Probabilitas	Ket
Prestest eksperimen PBL	0,273	0,273 > 0.05 = normal
Posttest eksperimen PBL	0,084	0,084 > 0.05 = normal
Prestest eksperimen PjBL	0,115	0,115 > 0.05 = normal
Posttest eksperimen PjBL	0,080	0,080 > 0.05 = normal

Sumber, (SPSS Versi 30)

The average posttest score in experimental class 1 using the PBL model was 87.65, while in experimental class 2 using the PjBL model was 83.48. This difference suggests that the PBL model is more effective in improving students' critical thinking skills, especially since students are more enthusiastic and engaged in problem-based learning that stimulates their critical and analytical thinking.

CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that the application of the Problem Based Learning (PBL) model is more effective in improving students' critical thinking skills compared to the Project Based Learning (PjBL) model. This can be seen from the results of the posttest which showed a higher average score in the class using the PBL model, which was 87.65, compared to the class using the PjBL model which obtained an average score of 83.48. PBL has been shown to encourage students to think more critically and actively engage in learning, which is reflected in a significant improvement in the excellent category in students' critical thinking abilities.

On the other hand, although the PjBL model also provides a significant improvement in students' descriptive essay writing skills, it requires more time and cooperation in groups, which can affect students' enthusiasm during learning. Even so, the application of the PjBL model still

succeeded in improving students' description writing skills, with a higher average posttest score compared to the pretest. This model is effective in engaging students in real-life projects that hone their practical and collaborative skills.

This study provides a clear picture of the different impacts caused by the two learning models on students' critical thinking skills and writing skills. Based on the results of data analysis, these two learning models have been proven to improve students' skills in different aspects. Therefore, the results of this study can be used as a reference in choosing a learning model that is in accordance with the learning objectives and conditions of students in various educational contexts.

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