THE EFFECT OF IMPLEMENTING THE PBL MODEL TOWARDS CRITICAL THINKING ABILITIES IN THE KURIKULUM MERDEKA FOR ELEMENTARY SCHOOL STUDENTS

Prihantini[1], Murthada[2], Aep Saepuloh[3], Archristhea Amahoru[4], Edi Ahyani[5]
[1]Universitas Pendidikan Indonesia Kampus Cibiru, [2]Universitas Muhammadiyah Mahakarya Aceh, [3]Universitas Nahdlatul Ulama Cirebon,
[4]Institut Agama Islam Negeri Ambon, [5]IAIN Ambon
[1]prihantini@upi.edu, [2]murthadagayo@gmail.com, [3]aepsaepuloh300@gmail.com,
[4]amahoruthea@gmail.com, [5]ediahyani@gmail.com

ABSTRACT

The Problem Based Learning is learning that focuses on the learning that students do and everything that students do to receive knowledge. In learning with the PBL model, students are expected to have real problems to solve. The main objective of this study is to assess the impact of implementing the PBL approach on the development of critical thinking abilities among elementary school students following the Kurikulum Merdeka. This study falls under the category of experimental research and employs Simple Random Sampling as the sampling technique. The primary research instrument utilized in this study is a test designed to evaluate student learning outcomes, while the t-test is employed as the data analysis technique. The findings of this research reveal that the average score obtained by the experimental group is 81.32, whereas the control group scores an average of 72.2. Consequently, it can be deduced from the research findings that the utilization of the PBL model significantly enhances students' critical thinking skills. As a result, it is highly recommended that teachers incorporate the PBL model into their instructional practices.

Keywords: PBL, critical thinking, kurikulum merdeka

A. Introduction

Education occupies a very important place and role. It is one of the ways of shaping human character. Education is also one of the human needs to be based on the potential that exists in man (Elisabet et al., 2019). Efforts to improve the quality of education carried out continuously, both conventionally and modernly (Susanti et al., 2023). With the enactment of Law Number 20 of 2003, the focus on national education was increasingly felt. Article 3 of this law clearly states that the purpose of education is to develop the potential of students in order to form individuals who have firm faith and devotion to God, have noble character, maintain health, acquire knowledge, show creativity, foster independence, and realize citizenship. democratic and responsible. The formal education

system, which is outlined in the education curriculum, includes various subjects taught in schools.

Learning is essentially closely related to the manner of good interactions between two components, namely the and the students (Asfuri, 2020);(Darman, 2020). In classroom interactions, the teacher is the center of attention of the students (Amin, 2019). Starting from appearance, teaching ability, attitude, teaching discipline and small things that sometimes escape the teacher's attention. Wijiastuti & Fitrotun Nisa, (2022) Explanation: Good interaction can be described as content in which the teacher ensures that learners process the learning material easily and actively according to their own wishes.

Meaningful and enjoyable learning will bring students to memorable and long-lasting learning experiences, one of which can be obtained through learning activities that emphasize student involvement in learning activities (Setiawan, 2023);(Mi et al., 2021). The learning process carried out by teachers in the classroom greatly influences activities and improves student learning outcomes (Kamaluddin, 2017);(Prananda, 2019). The learning process developed by the teacher has a huge influence on student learning success (Prastika, 2020). During the learning process between teachers and students, careful interaction and planning is needed, namely coordinating learning elements such as objectives, teaching materials, teaching and learning activities, and appropriate learning models, learning aids, and assessments.

Problem Based Learning (PBL) or problem-based learning is a type of learning model that directs students to a problem that must be solved through questions so that students are provoked to think (Astuti, 2019);(Pasinggi, 2023). PBL is a learning model that involves being more active in discovery activities in order to learn to through a problem presented with the goal of developing their problem-solving abilities that involve mentality of students to understand a learning concept (Lestary, 2023);(Sutanto et al., 2023).

Another definition explains that PBL is a model that exposes students to real-world problems and the context necessary to acquire the knowledge needed for problems

problems to identify what is being learned (Hatipoğlu, 2023). Typically, students work in groups under the guidance of a teacher to facilitate the learning process. However, in this case, students actively participate in group learning by solving complex real-world problems, reducing the teacher's role as a mere facilitator. Applying the PBL model improves students' critical thinking skills and creativity because this approach encourages them to analyze and solve real-world problems while connecting them to important learning concepts (Sujendra, 2019);(Mardhiyana & Sejati, 2016).

The research results show that the level of learning in an elementary school in Bandung City is currently still below standard. The average score obtained from the Midterm Examination was 49.35, well below the school's minimum passing score of 80. This data clearly shows that students are struggling to meet the required standards. In an interview with one of the teachers, it was revealed that the limited availability of learning tools and materials hinders the implementation of effective teaching methods, resulting in inadequate development of students' skills. In addition, the practice questions given to students do not adequately reflect real-life situations, leading to a situation where students simply memorize information without truly understanding the underlying concepts.

Based on the description above, researchers are interested in conducting research using the PBL learning model with the title the effect of implementing the PBL model on critical thinking skills in the *Kurikulum Merdeka* for elementary school students.

B. Research Method

The paper applies experimental research. Sugiyono, (2020) states that experimental research is a design used to determine the effect of certain treatments in controlled settings. This research was carried out in two classes, the experimental and the control class. The experimental class is a class which is treated using the PBL model in its learning process, and the control learning class uses a conventional model in its learning.

This research uses two sample classes, namely the experimental class and the control class. Before

taking samples, the researcher carried out a normality test on the 1st semester daily test scores for classes VA, VB and VC. Carry out a normality test on the daily test scores for classes VA, VB and VC using the Lilliefors test. can be seen in the following image:

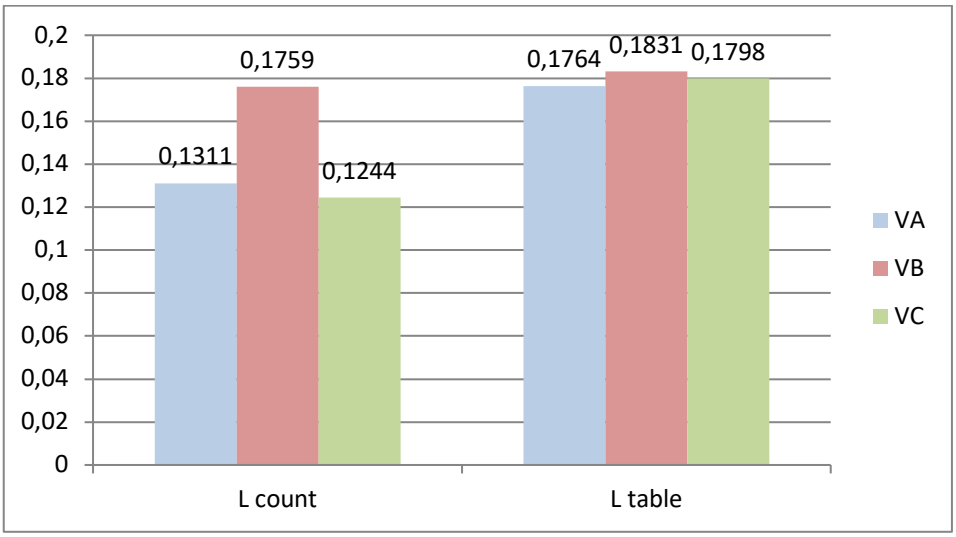

Figure 1. Normality test

Based on the calculation above, it is obtained that Lcount < Ltable. So all the grades of class V daily test students are normally distributed. The steps for finding experimental and control class samples are to use random sampling techniques, so we get VA class as the experimental class sample and VC class as the control class sample.

C. Research Results and Discussion

The final critical thinking test is carried out using an instrument in the form of 25 objective questions. In the VA class which functions as an experimental class, all 25 students participate in the VC class, which functions as a control class, 25 students also participate. The results of the final critical thinking test can be seen in the following picture.

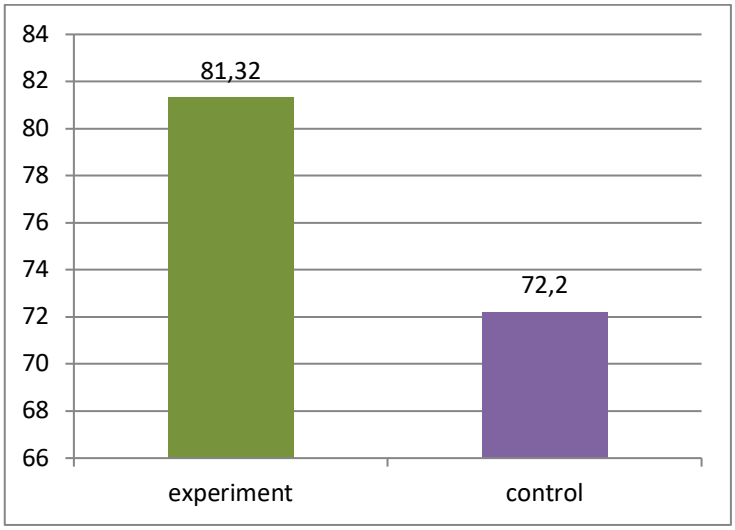

Figure 2. Final test results

The average obtained in the class given the PBL model was higher than the conventional model. The following percentage of students' learning completeness can be seen in the picture below.

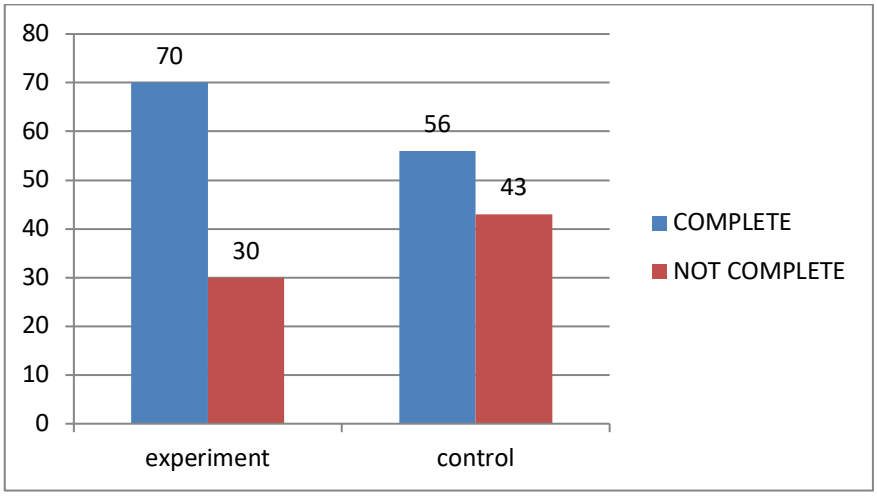

Figure 3. Percentage of student learning completeness

It can be seen that the percentage of students completing their grades in the experimental class was 75% and the percentage of completing their scores in that class was 56.5%. This means that the completeness of learning outcomes in the experimental class is higher than in the control class, so there are differences between the two sample classes.

Hypothesis test

After carrying out the normality test and the homogeneity test, we can conclude that the two classes of samples are normally distributed and

present homogeneous variances. The hypothesis test used is the t-test. The hypothesis tests can be seen in the table.

Table 2. Sample Class t-test result

Class	$\overline{X}$	T_{count}
Experiment	81,42	2,22
Controll	70,96	

The results of the hypothesis test using the t test were carried out, it was obtained that t_count > t_tabel, where 2.203 > 2.015, thus H_1 was accepted, namely that there was an influence of the Snowball Throwing learning model on learning outcomes in students' cognitive aspects.

Discussion

Problem-based learning is learning that focuses on what students do and what students do to gain knowledge. When learning uses the PBL model, students are required to solve real world problems. These questions stimulate students' creative thinking, or in other words, enable them to discover and solve problems and communicate ideas in new and appropriate ways. Therefore, it can be said that the PBL learning model can improve students' critical thinking in learning through problem communication.

The results of the study showed that in the final test, the critical thinking ability of the experimental class was better than that of the control class, with an average of 81.32 for the experimental class and 72.2 for the control class. According to statistics, the use of PBL learning model has a positive impact on the improvement of critical thinking skills in experimental teaching. it is related to a study Yulianti & Gunawan, (2019);(Farisi et al., 2017);(Nurkhasanah, 2019), The study's findings indicated that the implementation of the learning model had a significant effect on concept comprehension, as evidenced by the results of data analysis conducted with the SPSS 17.00 software. Moreover, it was observed that students who engaged in critical thinking demonstrated improved understanding. Ultimately, it can be inferred that the PBL learning model fosters the development of critical thinking skills. In summary, both the PBL learning model and the traditional learning model have an impact on students' ability to think critically. This is supported by the fact that the experimental group achieved a higher average grade on the final

exam compared to the control group. The obstacle that the researcher encountered during the study was that the researcher's time was very limited as the primary school students were undergoing their final exams. Therefore, it is difficult for researchers to schedule teaching time for each sample class. Another obstacle is that it is difficult for students to ask questions to other groups. Researchers try to overcome various obstacles encountered during the research process. First, communicate with the relevant class teachers regarding the effective time for teaching the two sample classes. Researchers then help students who have difficulty asking questions by guiding them until they find questions based on the material they have studied. In this way, obstacles in the learning process will be reduced and the learning process will run effectively.

D. Conclusion

Utilizing a question-based approach, problem-based learning serves as a pedagogical model that encourages students to actively engage in problem-solving activities, thereby stimulating their cognitive faculties. Through extensive research, it has been established that the implementation of the PBL learning model yields positive effects on the critical thinking abilities of primary school students within the framework of the *Kurikulum Merdeka*. Comparing the learning outcomes of Class V students who were exposed to the PBL learning model with those who underwent traditional instruction, it becomes evident that the former group exhibited superior performance. This is evident from the average scores obtained in the final test, with the experimental class achieving an average score of 81.32, in contrast to the control class's average score of 72.2. Consequently, we can accept the alternative hypothesis (H_1), which affirms that both sets of data demonstrate a significant impact on the development of critical thinking skills.

REFERENCES

Amin, A. (2019). Hubungan Kompetensi Sosial Guru Dengan Interaksi Edukatif Dalam Perspektif Peserta Didik. *Al-Bidayah: Jurnal Pendidikan Dasar Islam*, *11*(01), 77–106.

Asfuri, A. (2020). Implementasi Pembelajaran Door to Door Pada Perkembangan Psikologi Belajar

Anak di TKIT Raudlotul Mu'minin. *IJIP : Indonesian Journal of Islamic Psychology*, *2*(1), 84–111.

Astuti. (2019). Model Problem Based Learning dengan Mind Mapping dalam Pembelajaran IPA Abad 21. *Proceeding of Biology Education*, *3*(1), 64–73.

Darman. (2020). Belajar dan pembelajaran. In *Guepedia*.

Elisabet, E., Relmasira, S. C., & Hardini, A. T. A. (2019). Meningkatkan Motivasi dan Hasil Belajar IPA dengan Menggunakan Model Pembelajaran Project Based Learning (PjBL). *Journal of Education Action Research*, *3*(3), 285.

Farisi, A., Hamid, A., & Melvin. (2017). Pengaruh Model Pembelajaran Problem Based Learning Terhadap Kemampuan Berpikir Kritis Dalam Meningkatkan Hasil Belajar Siswa Pada Konsep Suhu Dan Kalor. *Jurnal Ilmiah Mahasiswa (JIM) Pendidikan Fisika*, *2*(2), 283–287.

Hatipoğlu, C. (2023). The effect of a problem-based learning model on high school students' human values. *African Educational Research Journal*, *11*(2), 157–169.

Kamaluddin, M. (2017). Pengaruh motivasi belajar terhadap prestasi belajar matematika dan strategi untuk meningkatnya. *Prosiding Seminar Matermatika Dan Pendidikan Matematika*, *4*(1), 455–460.

Lestary. (2023). Analisis Bibliometrik: Fokus Penelitian Problem Based Learning dalam Pembelajaran Matematika. *Jurnal Ilmiah Matematika Realistik (JI-MR)*, *4*(1), 120–125.

Mardhiyana, D., & Sejati, E. O. W. (2016). Mengembangkan Kemampuan Berpikir Kreatif dan Rasa Ingin Tahu Melalui Model Pembelajaran Berbasis Masalah. *PRISMA, Prosiding Seminar Nasional Matematika*, *1*(1), 672–688.

Mi, S. D., Penerbit, Y., & Zaini, M. (2021). *Diani Ayu Pratiwi, M. P., Lawe, Y. U., Munir, M., Wahab, A., Prananda, G., Safiah, I., ... & Or, S. (2021). Perencanaan pembelajaran SD/MI . Yayasan Penerbit Muhammad Zaini.* 2021.

Nurkhasanah. (2019). Penerapan Model Problem Based Learning Untuk Meningkatkan Kemampuan Berpikir Kritis Siswa Kelas V Sd. *Satya Widya*, *35*(1), 33–41. https://doi.org/10.24246/j.sw.2019.v35.i1.p33-41

Pasinggi. (2023). Penerapan Model Pembelajaran Problem Based Learning Dalam Meningkatkan Hasil Belajar Fisika. *SCIENCE : Jurnal Inovasi Pendidikan Matematika Dan IPA*, *3*(1), 49–55.

Prananda, G. (2019). Pengaruh Model Pembelajaran Kooperatif Tipe STAD Dalam Pembelajaran IPA Siswa Kelas V SD. *Pedagogik: Jurnal Ilmiah Pendidikan Dan Pembelajaran Fakultas Tarbiyah Universitas Muhammadiyah Aceh*, *6*(2), 122–130.

Prastika. (2020). Pengaruh Minat Belajar Siswa Terhadap Hasil Belajar Matematika Siswa Smk Yadika Bandar Lampung. *Jurnal Ilmiah*, *1*(2), 17–22.

Setiawan. (2023). Efektifitas Model Pembelajaran Pbl Untuk Meningkatkan Hasil Belajar Materi Teks Prosedur Pada Mata Pelajaran Bahasa. *JGURUKU: Jurnal Guru Universitas*, *1*(20), 34–47.

Sugiyono. (2020). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. In *Bandung : Alfabeta, CV*.

Sujendra, K. (2019). Pengaruh Model Pembelajaran Problem Based Learning (PBL) Berbasis Kearifan Lokal Terhadap Sikap Sosial Dan Berfikir Kritis Pada Mata Pelajaran Matematika. *Thinking Skills and Creativity Journal*, *1*(2), 76.

Susanti, S., Fakhrul Uman, A., Aida fitriyah Ridwan, S., & Maf'ulah, S. (2023). Manajemen Peran Kepala Sekolah Dalam Meningkatkan Mutu Pendidikan. *Jurnal Impresi Indonesia*, *2*(6), 574–581. https://doi.org/10.58344/jii.v2i6.2916

Sutanto, S., Salma Nur Arrifa, & Heri Maria Zulfiati. (2023). Application Application of the Tri-N-Based PBL Learning Model (Niteni, Nirokke, Nambahi) in Class V Elementary School Social Studies Learning. *Jurnal Pendidikan Ips*, *13*(1), 81–89.

Wijiastuti, A., & Fitrotun Nisa, A. (2022). Pembelajaran Berdiferensiasi Melejitkan Prestasi. *Dewantara Seminar Nasional Pendidikan*, *2*(01).

Yulianti, E., & Gunawan, I. (2019). Model Pembelajaran Problem Based Learning (PBL): Efeknya Terhadap Pemahaman Konsep dan Berpikir Kritis. *Indonesian Journal of Science and Mathematics Education*, *2*(3), 399–408.