Vol. 9 No. 1 December 2024, pp. 170-177
p-ISSN : 2548-883X || e-ISSN : 2549-1288
https://jurnal.unimed.ac.id/2012/index.php/jgkp/article/view/64294
https://doi.org/10.24114/jgk.v9i1.64294

THE APPLICATION OF THE PROBLEM BASED LEARNING MODEL TO IMPROVE THE CRITICAL THINKING SKILLS OF ELEMENTARY SCHOOL STUDENTs

Yusron Abda'u Ansya[1], Tania Salsabilla[2]
[1,2]Elementary Teacher School Education Study Program, State University of Medan
Email: yusronabda@mhs.unimed.ac.id

Abstract

The purpose of this study is to investigate how the Problem Based Learning paradigm can help primary school pupils develop their critical thinking abilities. Five class instructors and twenty fifth-grade students at SD Muhammadiyah 29 Sunggal Elementary School participated in interviews, observations, and documentation as part of the qualitative descriptive methodology utilised to collect data. As demonstrated by the research findings, the Problem Based Learning significantly improves students' critical thinking abilities and increases their level of active engagement, opinion courage, and enthusiasm for learning. Even if there are obstacles to its implementation, like instructors' ignorance and a lack of resources, this study suggests that teachers should receive training and support from parents and associated organisations. It is anticipated that this study will give participants in initiatives to raise the standard of education in Indonesia fresh perspectives.

Keywords: Problem-Based Learning, Critical Thinking, Elementary School

INTRODUCTION

Indonesia's education system is presently encountering substantial obstacles in its pursuit of enhancing learning quality. One of the main aspects of concern is students' critical thinking skills. Critical thinking is defined as the ability to analyze, evaluate, and create logical and rational arguments. Rositawati (2019) explaining that critical thinking involves several elements, such as identifying arguments, assessing the quality of those arguments, and the ability to formulate decisions based on relevant evidence. At the elementary school level, this ability becomes a very important foundation, as it helps students not only in understanding the subject matter but also in developing the skills necessary for further education (Ansya, 2023; Ansya, Alfianita, Syahkira, et al., 2024; Ansya & Salsabilla, 2024).

The Problem Based Learning model is a viable option to examine since it is one of the strategies anticipated to improve critical thinking abilities. An instructional strategy known as "problem-based learning" puts pupils in authentic scenarios where they must solve problems. Students are urged to use critical and creative thinking, solve problems on their own, and collaborate in groups using this approach. Fonna and Nufus (2024) emphasizing that Problem Based Learning not only focuses on finding solutions but also on developing collaboration and communication skills among students. Despite its great potential, the implementation of Problem Based Learning in elementary schools in Indonesia is still relatively low, indicating an urgent need to explore and embrace this method more widely in the curriculum (Betu, 2024).

The results of the Program for International Student Assessment (PISA) in 2012 showed that Indonesia ranked 64th out of 65 countries with a literacy score of 382. PISA indicates that students

Received on: 29 November 2024 **Approved at :** 11 December 2024 **Published at** : 12 December 2024

Vol. 9 No. 1 December 2024, pp. 170-177
p-ISSN : 2548-883X || e-ISSN : 2549-1288
https://jurnal.unimed.ac.id/2012/index.php/jgkp/article/view/64294
https://doi.org/10.24114/jgk.v9i1.64294

in Indonesia can only reach levels 1 and 2 out of a total of six levels of questions available. This assessment leads to the conclusion that the thinking skills of students in Indonesia are very low (Lidiawati & Aurelia, 2023). This data reflects the need for innovation in the teaching methods applied in the classroom. Considering that elementary school is the initial stage of education, it is important for the teaching methods applied to be able to build and develop critical thinking skills that will later have a significant impact on the overall educational journey of the students. In this case, Problem Based Learning is expected to be one of the solutions to enhance students' critical thinking skills.

However, although Problem Based Learning offers many benefits, there are several issues that often hinder its implementation in elementary schools. One of the main challenges is the lack of understanding among teachers regarding the Problem Based Learning method. Research conducted by Mayasari et al (2022) shows that many teachers face difficulties in designing and implementing problem-based learning. Another factor that influences is the limited resources available, including adequate facilities and access to relevant learning materials. The situation indicates the need for greater support from the government and related institutions to facilitate the implementation of this method.

Previous research conducted (Amris & Desyandri, 2021; Anugraheni, 2018; Effendi et al., 2021; Hotimah, 2020; Setiawan et al., 2022) shows that the Problem Based Learning model is effective in improving the critical thinking skills of elementary school students. This article's goal is to examine how the Problem Based Learning paradigm might be used to improve elementary school pupils' critical thinking abilities. It is anticipated that the study would explore in further detail the efficacy of problem-based learning within the framework of Indonesian education and develop suitable solutions to current problems. The findings of this research are expected to offer novel insights for educators, policymakers, and other stakeholders aimed at enhancing the quality of education in Indonesia.

RESEARCH METHODS

This study employs a qualitative descriptive methodology to elucidate the application of the Problem Based Learning model within elementary school education. Qualitative descriptive research is an approach used to understand and describe social phenomena in the context of education (Sugiyono, 2013). This method was chosen because it allows researchers to delve deeply into the experiences and perspectives of teachers and students regarding the implementation of Problem Based Learning. Data were collected through interviews, observations, and documentation.

The research subjects consisted of five classroom teachers and twenty fifth-grade students from SD Muhammadiyah 29 Sunggal. The selection of subjects was conducted purposively, considering the teachers' experience in teaching and the students' involvement in learning activities. Interviews were done to gather information about instructors' comprehension of Problem-Based Learning, the problems encountered, and the effects experienced by students following their participation in problem-based learning.

Received on: 29 November 2024 **Approved at :** 11 December 2024 **Published at** : 12 December 2024

Vol. 9 No. 1 December 2024, pp. 170-177
p-ISSN : 2548-883X || e-ISSN : 2549-1288
https://jurnal.unimed.ac.id/2012/index.php/jgkp/article/view/64294
https://doi.org/10.24114/jgk.v9i1.64294

Observation was conducted during the learning process to directly see how Problem Based Learning is implemented in the classroom. The researcher noted the interactions between the teacher and students, as well as the students' participation in group discussions and problem-solving. Documentation in the form of teaching modules and student work was also collected to support the data obtained from interviews and observations.

The data that has been collected is then analyzed using thematic analysis techniques, where the researcher identifies the main themes that emerge from the data. This analysis is conducted iteratively, allowing the researcher to understand the context and meaning of each theme identified. The results of the analysis are then presented in the form of a narrative that describes the implementation of Problem Based Learning and its impact on students' critical thinking skills.

RESULTS AND DISCUSSION

Results

Research conducted in several elementary schools shows that the implementation of the Problem Based Learning model has a significantly positive impact on the development of students' critical thinking skills. Students are encouraged to actively participate in the learning process using the Problem Based Learning paradigm, which places an emphasis on finding solutions to pertinent and real-world problems. Students are inspired to take part in conversations, come up with original solutions, and improve their analytical abilities in this dynamic setting. One example of an activity conducted is asking students to design solutions to reduce the amount of waste in the school environment. This activity invites active student participation in formulating ideas and solutions, as well as applying theory to real practice.

From the observation results, it is evident that students involved in problem-based learning show a much higher level of activity compared to traditional learning approaches. In those learning sessions, they did not just sit quietly and listen to the teacher's explanation, but actively asked questions, engaged in discussions, and sought to find solutions to the given problems. In collaborative situations, such as when designing waste management solutions, students work together in groups, exchange ideas, and explore various alternative solutions. This initiative reflects the power of Problem Based Learning in enhancing student participation and providing deeper meaning for them.

According to teacher interviews, the use of the Problem Based Learning approach has resulted in a notable increase in students' critical thinking abilities. One teacher enthusiastically observed that, "Students are more daring to express their opinions and question the information they receive. They do not just accept it passively, but also analyze and evaluate the information." This enhancement is consistent with other studies that demonstrate the Problem Based Learning paradigm may significantly enhance students' critical thinking abilities, as shown in a study by (Hajar & Muhammad, 2024).

The quantitative data collected through questionnaires distributed to students also supports these positive findings. About 85% of students reported feeling more confident in solving problems after participating in problem-

Received on: 29 November 2024 **Approved at :** 11 December 2024 **Published at** : 12 December 2024

Vol. 9 No. 1 December 2024, pp. 170-177
p-ISSN : 2548-883X || e-ISSN : 2549-1288
https://jurnal.unimed.ac.id/2012/index.php/jgkp/article/view/64294
https://doi.org/10.24114/jgk.v9i1.64294

based learning. Additionally, 78% of students expressed that they enjoyed the lessons more and felt more engaged in the learning process. These findings indicate that not only has critical thinking ability improved, but also students' enthusiasm and interest in learning, two aspects that are very important for educational success.

However, this study also found several challenges faced in the implementation of the Problem Based Learning model. Some teachers admitted that they had difficulty designing problems that were relevant and engaging for students. They strive to find a balance between the complexity of the problems and the students' abilities, so that the learning remains challenging but does not cause frustration. Additionally, the time constraints in the rigid learning schedule also pose a significant obstacle that hinders the optimization of Problem Based Learning implementation. Given these challenges, the teachers demonstrate a high level of commitment to continuously developing the Problem Based Learning method. They are aware of the great potential that Problem Based Learning holds in creating students who not only possess good academic abilities but are also capable of critical and creative thinking. Some teachers even actively share their experiences and strategies that they successfully implemented in the classroom with their colleagues at school, creating a supportive learning community in the effort to improve the quality of education.

Discussion

The results of this study indicate that the implementation of the Problem Based Learning model has great potential in enhancing the critical thinking skills of elementary school students. Problem Based Learning is a learning approach that emphasizes active student involvement through solving relevant and real problems, which encourages them to think deeply. With this method, students do not just become passive recipients of information, but the main actors in the learning process. This is consistent with Jean Piaget's constructivist theory, which holds that when pupils are actively involved in the learning process, effective learning takes place. Students can gain analytical and evaluative abilities through this activity, which will help them in both their academic and personal lives.

One concrete example of the successful implementation of Problem Based Learning can be seen in a project where students were asked to design a waste reduction campaign at school. In this project, students not only learned about the importance of maintaining environmental cleanliness. They were also trained to formulate concrete strategies, collect data on the cleanliness conditions in their environment, and present their work results to their classmates. This process requires students to think critically, collaborate in teams, and communicate effectively. As a result, students are able to develop creative ideas that directly address their context, providing relevant and applicable solutions.

Nevertheless, it is impossible to ignore the difficulties in putting the Problem Based Learning approach into practice, even with all of its benefits. One of the biggest obstacles is the lack of understanding among teachers about the Problem Based Learning method itself. Without adequate training, teachers may find it difficult to design and manage problem-based learning, as well as create a supportive learning environment. Time

Received on: 29 November 2024 **Approved at :** 11 December 2024 **Published at** : 12 December 2024

Vol. 9 No. 1 December 2024, pp. 170-177
p-ISSN : 2548-883X || e-ISSN : 2549-1288
https://jurnal.unimed.ac.id/2012/index.php/jgkp/article/view/64294
https://doi.org/10.24114/jgk.v9i1.64294

constraints in a dense curriculum often pose an obstacle, where the large amount of material to be delivered and the limited time hinder the optimal implementation of Problem Based Learning. Research by Ansya et al (2024) emphasizing that professional support for teachers is one of the keys to the successful implementation of Problem Based Learning in the educational environment.

Support from the school is crucial in the success of the Problem Based Learning model. Schools must provide adequate training for teachers on this method, both theoretically and practically. By empowering teachers through workshops, seminars, and professional development programs, their ability to implement Problem Based Learning will improve. This enables teachers to facilitate students in project-based learning more effectively, as well as overcome the challenges they face in the field. Investment in teacher training will have a long-term impact on the quality of teaching and learning in schools (Ansya, Ardhita, et al., 2024).

Parental participation is a crucial element that supports the effectiveness of problem-based learning in addition to school assistance. When parents understand the benefits of this learning approach, they are encouraged to engage in their children's learning process at home. For example, parents can help their children in gathering data, discussing ideas, or providing feedback on the projects they are working on. Research by Khunafah et al (2024) shows that family support has a significant impact on students' academic achievement. When parents actively participate, the effectiveness of learning will increase and provide a richer experience for students.

Strategies to involve parents in the Problem Based Learning process must be designed and implemented systematically. Schools can hold meetings or seminars on Problem Based Learning to provide parents with an understanding of the importance of this method. Thus, parents not only understand this approach but also participate in supporting their children. Clear and accurate information will build parents' trust in the school's learning process and create a positive synergy between school and home (Ansya, Alfianita, & Syahkira, 2024; Sari et al., 2023).

Considering the support needed from teachers, schools, and parents, the implementation of the Problem Based Learning model in elementary schools can be very beneficial. Problem Based Learning not only enhances students' critical thinking skills but also develops collaboration, communication, and creativity skills. Students who are involved in problem-based learning are often more prepared to face real-world challenges because they have been trained to think critically and can collaborate well. Meaningful learning like this will equip them with the skills needed in their future social and professional lives (Aslamiyah & Abun, 2023).

Good collaboration between teachers, schools, and parents is very important to create a supportive learning environment for students. Through this collaboration, education in Indonesia is expected to achieve better quality. A robust education system will produce a generation that not only understands academically but also possesses the ability to adapt and solve problems. Thus, it is important to continue exploring and developing the Problem Based Learning

Received on: 29 November 2024 **Approved at :** 11 December 2024 **Published at** : 12 December 2024

Vol. 9 No. 1 December 2024, pp. 170-177
p-ISSN : 2548-883X || e-ISSN : 2549-1288
https://jurnal.unimed.ac.id/2012/index.php/jgkp/article/view/64294
https://doi.org/10.24114/jgk.v9i1.64294

method within a broader educational context, so that its benefits can be maximally felt.

In the face of globalisation and the speed at which technology is developing, problem-based learning-based education can be a step in the right direction. With this method, students not only learn to receive information but also to think critically, analyze, and find creative solutions in facing challenges. These skills are highly needed to address the complex problems present in society today. With consistent development and solid support from all parties, Problem Based Learning can become a strong foundation towards an advanced and high-quality education system.

CONCLUSION

The use of the Problem Based Learning paradigm considerably improves elementary school pupils' critical thinking abilities, according to the study's findings. An engaging and cooperative learning environment is produced via problem-based learning, where students are encouraged to engage in problem-solving processes relevant to their daily lives. Although there are challenges in the implementation of this model, such as the lack of teacher understanding and time constraints, the commitment to developing this method will have a positive impact on education.

Therefore, it is recommended that schools and the government provide adequate training for teachers and create policies that support the implementation of PBL. Additionally, parental involvement in the learning process is also very important to enhance the effectiveness of PBL. With these steps, it is hoped that students' critical thinking skills can continue to develop, preparing them to face future challenges.

REFERENCES

Amris, F. K., & Desyandri, D. (2021). Pembelajaran Tematik Terpadu menggunakan Model Problem Based Learning di Sekolah Dasar. *Jurnal Basicedu*, *5*(4), 2171–2180.

Ansya, Y. A. (2023). Upaya Meningkatkan Minat dan Prestasi Belajar Siswa Kelas IV Sekolah Dasar pada Pembelajaran IPA Menggunakan Strategi PjBL (Project-Based Learning). *Jurnal Ilmu Manajemen Dan Pendidikan (JIMPIAN)*, *3*(1), 43–52. https://doi.org/10.30872/jimpian.v3i1.2225

Ansya, Y. A., Alfianita, A., & Syahkira, H. P. (2024). OPTIMIZING MATHEMATICS LEARNING IN FIFTH GRADES: THE CRITICAL ROLE OF EVALUATION IN IMPROVING STUDENT ACHIEVEMENT AND CHARACTER. *PROGRES PENDIDIKAN*, *5*(3), 302–311. https://prospek.unram.ac.id/index.php/PROSPEK/article/view/1120

Ansya, Y. A., Alfianita, A., Syahkira, H. P., & Syahrial, S. (2024). Peran Evaluasi Pembelajaran pada Mata Pelajaran Matematika Kelas V Sekolah Dasar. *Indiktika : Jurnal Inovasi Pendidikan Matematika*, *6*(2), 173–184. https://doi.org/10.31851/indiktika.v6i2.15030

Ansya, Y. A., Ardhita, A. A., Rahma, F. M., Sari, K., & Khairunnisa, K. (2024). ANALISIS FAKTOR PENYEBAB RENDAHNYA KEMAMPUAN LITERASI BACA TULIS SISWA SEKOLAH DASAR. *JGK (Jurnal Guru Kita)*, *8*(3), 598–606. https://doi.org/10.24114/jgk.v8i3.60183

Received on: 29 November 2024 **Approved at :** 11 December 2024 **Published at** : 12 December 2024

Vol. 9 No. 1 December 2024, pp. 170-177
p-ISSN : 2548-883X || e-ISSN : 2549-1288
https://jurnal.unimed.ac.id/2012/index.php/jgkp/article/view/64294
https://doi.org/10.24114/jgk.v9i1.64294

Ansya, Y. A., & Salsabilla, T. (2024). *Model Pembelajaran IPA di Sekolah Dasar*. Cahya Ghani Recovery.

Anugraheni, I. (2018). Meta analisis model pembelajaran problem based learning dalam meningkatkan keterampilan berpikir kritis di Sekolah Dasar [A meta-analysis of problem-based learning models in increasing critical thinking skills in elementary schools]. *Polyglot: Jurnal Ilmiah*, *14*(1), 9–18.

Aslamiyah, N., & Abun, R. (2023). Profesionalisme guru sebuah tuntutan dalam era perubahan sebagai wujud penguatan manajemen pendidikan islam. *At-Tajdid: Jurnal Pendidikan Dan Pemikiran Islam*, *7*(1), 12–24.

Betu, F. S. (2024). Pentingnya Keterampilan Bertanya Peserta Didik: Kompetensi Penting Dalam Kurikulum Merdeka. *Atma Reksa: Jurnal Pastoral Dan Kataketik*, *8*(2), 1–16.

Effendi, R., Herpratiwi, H., & Sutiarso, S. (2021). Pengembangan LKPD matematika berbasis problem based learning di sekolah dasar. *Jurnal Basicedu*, *5*(2), 920–929.

Fonna, M., & Nufus, H. (2024). Pengaruh Penerapan Problem Based Learning (PBL) Terhadap Keterampilan Abad 21. *Ar-Riyadhiyyat: Journal of Mathematics Education*, *5*(1), 22–30.

Hajar, S., & Muhammad, M. Q. A. (2024). Penerapan Model Pembelajaran Problem Based Learning dalam Meningkatkan Hasil Belajar Matematika Siswa Kelas 3 SD Inpres Minasa Upa Kota Makassar. *Lempu PGSD*, *1*(2), 225–232.

Hotimah, H. (2020). Penerapan metode pembelajaran problem based learning dalam meningkatkan kemampuan bercerita pada siswa sekolah dasar. *Jurnal Edukasi*, *7*(2), 5–11.

Khunafah, K., Aliyah, N. D., & Darmawan, D. (2024). Pengaruh Kemandirian Belajar, Lingkungan Belajar, Dan Metode Pembelajaran Terhadap Prestasi Belajar Siswa SDN Di Desa Bangeran Kecamatan Dukun Kabupaten Gresik. *Jurnal Ilmu Pendidikan Islam*, *23*(2), 111–125.

Lidiawati, K. R., & Aurelia, T. (2023). Kemampuan berpikir kritis siswa di Indonesia: Rendah atau tinggi. *Buletin KPIN*, *9*(02).

Mayasari, A., Arifudin, O., & Juliawati, E. (2022). Implementasi Model Problem Based Learning (PBL) Dalam Meningkatkan Keaktifan Pembelajaran. *Jurnal Tahsinia*, *3*(2), 167–175.

Rositawati, D. N. (2019). Kajian berpikir kritis pada metode inkuiri. *Prosiding SNFA (Seminar Nasional Fisika Dan Aplikasinya)*, *3*, 74–84.

Sari, Y., Ansya, Y. A., Alfianita, A., & Putri, P. A. (2023). STUDI LITERATUR : UPAYA DAN STRATEGI MENINGKATKAN MOTIVASI BELAJAR SISWA KELAS V SEKOLAH DASAR DALAM PEMBELAJARAN BAHASA DAN SASTRA INDONESIA. *Jurnal Guru Kita PGSD*, *8*(1), 9–26. https://doi.org/10.24114/jgk.v8i1.53931

Setiawan, T., Sumilat, J. M., Paruntu, N. M., & Monigir, N. N. (2022). Analisis Penerapan Model Pembelajaran Project Based Learning dan Problem Based Learning pada Peserta Didik Sekolah Dasar. *Jurnal Basicedu*, *6*(6), 9736–9744.

Sugiyono, D. (2013). *Metode penelitian pendidikan pendekatan kuantitatif,*

Received on: 29 November 2024 **Approved at :** 11 December 2024 **Published at** : 12 December 2024

Vol. 9 No. 1 December 2024, pp. 170-177
p-ISSN : 2548-883X || e-ISSN : 2549-1288
https://jurnal.unimed.ac.id/2012/index.php/jgkp/article/view/64294
https://doi.org/10.24114/jgk.v9i1.64294

kualitatif, dan R&D. Alfabeta.

Received on: 29 November 2024 **Approved at :** 11 December 2024 **Published at** : 12 December 2024