

Literature Study: The Effect of Problem Based Learning (PBL) on Critical Thinking Ability

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Abstract

The purpose of this study was to describe the Problem Based Learning (PBL) model on students' critical thinking skills. The method used is qualitative through literature study. The research was conducted through the data collection stage from literature sources. The data that has been obtained is then analyzed using the descriptive analysis method. The Problem Based Learning (PBL) learning model is learning by providing a problem in real daily life to be studied by students so that the right solution can be found in solving it. The results showed that the application of the Problem Based Learning (PBL) model can have a positive influence on students' critical thinking skills. The PBL learning model is considered effective in developing students' thinking skills. This learning model raises curiosity and increases motivation so that it can develop higher thinking skills, especially in critical thinking.

Keywords: *Problem Based Learning, critical thinking skills, higher thinking skills*

Abstrak

Tujuan penelitian ini adalah untuk mendeskripsikan model Problem Based Learning (PBL) terhadap kemampuan berpikir kritis siswa. Metode yang digunakan adalah kualitatif melalui studi literatur. Penelitian dilakukan melalui tahap pengumpulan data dari sumber kepustakaan. Data yang telah diperoleh kemudian dianalisis dengan menggunakan metode analisis deskriptif. Model pembelajaran Problem Based Learning (PBL) merupakan pembelajaran dengan memberikan suatu permasalahan dalam kehidupan nyata sehari-hari untuk dipelajari siswa sehingga dapat ditemukan solusi yang tepat dalam menyelesaikannya. Hasil penelitian menunjukkan bahwa penerapan model Problem Based Learning (PBL) dapat memberikan pengaruh positif terhadap kemampuan berpikir kritis siswa. Model pembelajaran PBL dinilai efektif dalam mengembangkan kemampuan berpikir siswa. Model pembelajaran ini membangkitkan rasa ingin tahu dan meningkatkan motivasi sehingga dapat mengembangkan kemampuan berpikir yang lebih tinggi khususnya dalam berpikir kritis.

Kata kunci: *Pembelajaran Berbasis Masalah, kemampuan berpikir kritis, kemampuan berpikir tinggi*

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INTRODUCTION

In the 21st century, humans are required to have the ability to adapt to the times. These skills include critical thinking, creativity, communication, and collaboration. All of these skills must be possessed by every human being to be able to adapt to the 21st century. One of the skills needed is the ability to think critically. The human ability to think critically is needed to adapt to the times.

Critical thinking is a deep thinking process in which later a person is able to distinguish and analyze a fact or opinion in solving problems and is able to make a decision that is carried out systematically and logically (Vera & Wardani, 2018). This critical thinking ability is a person's ability to think at a high level, especially to solve a problem, so that later the person is able to make the right and logical decision in solving or solving these problems (Asriningtyas et al., 2018).

However, the reality in the field is that many teachers still have difficulty in training students' critical thinking skills. Teachers have not been able to make innovative and creative learning that causes students to feel bored when the learning process takes place (Fahrurrozi, F., Sari, Y., & Fadillah, , 2022). This is evidenced by research observations made by researchers at SDN 03 Taman Madiun City in June 2023. Teachers still use conventional learning models. When students are given questions that require critical thinking skills, they have not been able to answer well. This proves that there are still difficulties for teachers to develop students' thinking skills. In line with the opinion of Cintia et al (2018), schools have not fully implemented learning models that invite students to think critically. Learning that uses inappropriate learning approaches and models cannot develop students' abilities. Therefore, a learning model is needed that can make students active in learning so that later it helps students in practicing their critical thinking skills. One of the learning models that can help students in practicing critical thinking skills is Problem Based Learning (PBL).

Problem Based Learning (PBL) is a learning approach in which problems serve as contexts and stimuli for students to learn concepts and metacognitive skills (Major, C. H., & Eck, J. C, 2000). Problem-based learning aims to solve daily problems that are real and close to students' lives. According to Arends in Elfrida, et al (2019) said that the problem-based learning (PBL) model is designed primarily to help students develop thinking skills, problem-solving skills, and intellectual skills, learn adult roles by experiencing them through various real situations or simulated situations, and become independent and autonomous learners. It can be concluded that the PBL learning model is learning by providing a problem in real daily life to be studied by students so that the right solution can be found in solving it. Critical thinking skills can be improved through PBL because the learning approach is on authentic problems and students are not only asked to understand a problem but also must be able to work together to solve the problem, so as to stimulate students' abilities and skills, especially critical thinking skills (Masrinah, E. N., Aripin, I., & Gaffar, A. A, 2019).

Previous research conducted by Fajar Prasetyo and Firosalia Kristin in 2020 stated that the Problem Based Learning model has a significant effect on the critical thinking skills of 5th grade students (Prasetyo & Kristin, 2020). Research by Lana (2023) found an increase in the critical thinking ability of students with the application of the Problem Based Learning model with the help of Canva media in class II SD Negeri Mijen 2 Demak. In the study, the results of critical thinking skills showed an increase in cycle I reaching an average of 70 and increased in cycle II reaching 78.57.

Based on the description of the problems above, the purpose of this study is to determine and describe the application of the Problem Based Learning (PBL) learning model to the critical thinking skills of students at school.

METHOD

This research uses a qualitative method through literature study. According to Creswell, John. W. (2014) states that a literature review is a written summary of articles from journals, books, and other documents that describe theories and information both past and present organizing the literature into the topics and documents needed. The research was conducted through the data collection stage from literature sources. Primary studies were collected by checking several databases such as Google Scholar, Semantic Scholar, Education Resources Information Center (ERIC), Directory Open-Access Journal (DOAJ), and Science Direct using the keywords "Problem-Based Learning" and "critical thinking skills". The data that has been obtained is then analyzed using the descriptive analysis method. The descriptive analysis method is carried out by describing the facts which are then followed by analysis, not merely describing, but also providing sufficient understanding and explanation (Habsy, B. A., 2017).

RESULTS AND DISCUSSION

Problem Based Learning (PBL)

The Problem Based Learning model is a learning model based on constructivism and emphasizes student involvement in learning, especially in contextual problem solving (Sutrisno, 2019). This shows that the Problem Based Learning model shows a student centered learning. In implementing the Problem Based Learning model, the teacher acts as a facilitator to help and guide students when solving problems. When implementing the Problem Based Learning model, the teacher has the task of guiding students in discussions, providing questions from a problem, and guiding students to solve existing problems so that students are more aware in the learning process (Fahrurrozi et al, 2022).

Table1. Problem Based Learning Research Literature

Researcher	Title	Result
Haryanti, 2017	Problem-based learning model builds critical thinking skills of elementary school students	The Problem Based Learning model has a huge role in developing students' critical thinking skills. Students' critical thinking skills are developed through the learning steps of the Problem Based Learning model in the learning process.
Farisi, 2017	The Effect of Problem Based Learning Model on Critical Thinking Ability in Improving Student Learning Outcomes on Temperature and Heat Concepts	The use of the Problem Based Learning (PBL) learning model on students' critical thinking skills, because learning by applying the Problem Based Learning (PBL) model can train students to learn independently and think critically.
Saputri, 2020	Application of Problem Based Learning Model to Improve Critical Thinking Ability of Grade V Elementary School Students	The use of the Problem Based Learning model is effective for improving students' critical thinking skills, because this model provides opportunities for students to solve problems by organizing students into learning tasks, providing motivation and encouragement for students to seek information and carry out

		experiments in preparing appropriate work until finally evaluated by the teacher.
Nisa dan Rhosaliana (2020)	Application of Problem Based Learning with Sets Approach to Students' Critical Thinking Skills	The use of the Problem Based Learning (PBL) learning model has increased the critical thinking skills of students which is indicated by the increase in student learning success..
Setyawan & Koeswanti, 2021	Problem Based Learning on Critical Thinking of Elementary School Students	The results of the meta-analysis of the use of the Problem Based Learning model were able to improve students' critical thinking with an average score before the action of 62.23, while after the action became 79.63.
Ernaini et al., 2021	Application of Problem Based Learning (PBL) to Improve Students' Critical Thinking Ability	The Problem Based Learning model is able to improve students' critical thinking skills in the learning process where the percentage of students' critical thinking skills in cycle I is 30%, and has increased in cycle II by 90% so that it can be concluded that the Problem Based Learning model really has an influence on students' critical thinking skills.
Cahyani et al., 2021	Improving Discipline Attitude and Critical Thinking Ability of Students by Implementing Problem Based Learning Model	The Problem Based Learning model is able to improve critical thinking skills in grade V students from the initial condition of students' thinking skills only 34.5 then cycle I to 57.5, until in cycle II it increases to 70.25

Based on the results of several studies above, it shows that the PBL model can have a positive effect on students' critical thinking skills. Students' critical thinking skills are developed through the learning steps of the Problem Based Learning model in the learning process. This is in accordance with the theory conveyed by Marinah and Gaffar (2019). Learners must be able to work together to solve a given problem which then stimulates their thinking skills to be more critical. Increased critical thinking skills can be obtained by utilizing the PBL learning model.

CONCLUSION

Based on the results of literature review studies from several journal articles that are considered relevant to the research, it can be concluded that using the Problem Based Learning (PBL) learning model is effectively used to train and develop students' critical thinking skills. The learning steps carried out in the PBL learning model can stimulate students to think critically in solving problems. The Problem Based Learning model in learning can lead students to be active in participating in the learning process.

REFERENCE

- Asriningtyas, A. N., Kristin, F., & Anugraheni, I. (2018). Penerapan Model Pembelajaran Problem Based Learning Untuk Meningkatkan Kemampuan Berpikir Kritis dan Hasil Belajar Matematika Siswa Kelas 4 SD. *Jurnal Karya Pendidikan Matematika*, 5(1), 23–32

- Cahyani, H. D., Hadiyanti, A. H. D., & Saptoru, A. (2021). Peningkatan Sikap Kedisiplinan dan Kemampuan Berpikir Kritis Siswa dengan Penerapan Model Pembelajaran Problem Based Learning. *Edukatif: Jurnal Ilmu Pendidikan*, 3(3), 919–927.
- Cintia, N. I., Kristin, F., & Anugraheni, I. (2018). Penerapan model pembelajaran discovery learning untuk meningkatkan kemampuan berpikir kreatif dan hasil belajar siswa. *Perspektif ilmu pendidikan*, 32(1), 67-75.
- Creswell, J. W. (1998). *Qualitatif Inquiry and Research Design*. Sage Publications, Inc: California
- Ernaini, Ghazali, A., Surur, M., Utami, P. A., & Fatima, S. N. (2021). Penerapan Pembelajaran Problem Based Learning (PBL) Untuk Meningkatkan Kemampuan Berpikir Kritis Siswa. *Jurnal Pendidikan Tambusai*, 5(2), 3067–3075.
- Fahrurrozi, F., Sari, Y., & Fadillah, J. (2022). Studi Literatur: Pemanfaatan Model Problem Based Learning terhadap Kemampuan Berpikir Kritis dalam Pembelajaran PKn Siswa Sekolah Dasar. *Edukatif: Jurnal Ilmu Pendidikan*, 4(3), 4460-4468.
- Farisi, A. Hamid, A. & Melvina. (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(3), 283-287.
- Habsy, B. A. (2017). Seni memahami penelitian kuliitatif dalam bimbingan dan konseling: studi literatur. *Jurnal Konseling Andi Matappa*, 1(2), 90-100.
- Haryanti, Y. D. (2017). Model Pembelajaran Based Learning Membangun Kemampuan Berpikir Kritis Siswa Sekolah Dasar. *Jurnal Cakrawala Pendas*, 3(2), 57–63.
- Lana, B., Miyono, N., & Rowati, S. (2023, July). 6. Penerapan Model Problem Based Learning Berbantuan Media Canva Meningkatkan Kemampuan Berpikir Kritis Kelas II SD Negeri Mijen 2 Demak. *In Prosiding Seminar Nasional Pendidikan Profesi Guru (pp. 44-51)*.
- Masrinah, E. N., Aripin, I., & Gaffar, A. A. (2019). Problem Based Learning (PBL) Untuk Meningkatkan Keterampilan Berpikir Kritis. *Prosiding Seminar Nasional Pendidikan*, 1, 924-932.
- Prasetyo, F., & Kristin, F. (2020). Pengaruh Model Pembelajaran Problem Based Learning dan Model Pembelajaran Discovery Learning terhadap Kemampuan Berpikir Kritis Siswa Kelas 5 SD. *DIDAKTIKA TAUHIDI: Jurnal Pendidikan Guru Sekolah Dasar*, 7(1), 13–27.
- Vera, K., & Wardani, K. W. (2018). Peningkatan keterampilan berfikir kritis melalui model Problem Based Learning berbantuan audio visual pada siswa kelas IV SD. *JARTIKA: Jurnal Riset Teknologi Dan Inovasi Pendidikan*, 1(2), 33–45.
- Major, C. H., & Eck, J. C. (2000). Connecting Goals, Methods, And Measures: A Problem For Problem-Based Learning. *Assessment Update*, 12(1), 1-2, 10-11.
- Nisa, R. & Rhosaliana. I.A. (2020). Penerapan Problem Based Learning Berpendekatan Sets terhadap Keterampilan Berpikir Kritis Siswa. *Range: Jurnal Pendidikan Matematika*, 1(2), 152-156.
- Setyawan, M., & Koeswanti, H. (2021). Pembelajaran Problem Based Learning Terhadap Berpikir Kritis Peserta Didik Sekolah Dasar. *MIMBAR PGSD Undiksha*, 9(3), 489–496.
- Saputri, M. A. (2020). Penerapan Model Pembelajaran Problem Based Learning Untuk Meningkatkan Kemampuan Berfikir Kritis Siswa Kelas V Sekolah Dasar. *Jurnal Pendidikan Dan Konseling (JPDK)*, 2(1), 92–98.