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The Effectiveness of Problem Based Learning Model on Critical Thinking Skills on the Topic of Appreciating the Environment and Local Culture

Az Zahra Salsa Billa[1], Eko Priyanto[2], Ratna Kartikawati[3]
[1,2,3]Program Studi Pendidikan Kewarganegaraan, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Muhammadiyah Purwokerto
Jl. KH. Ahmad Dahlan, Dukuhwaluh, Kembaran, Banyumas, Jawa Tengah 53182

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ABSTRACT

This study aims to determine the effectiveness of the Problem-Based Learning (PBL) model on critical thinking skills on Appreciating the Environment and Local Culture at SMP Negeri 8 Purwokerto. The method used in this study is quasi-experimental with a quantitative approach. The population in this study consists of Grade VII students at SMP Negeri 8 Purwokerto. The sample size is 70 students, selected through purposive sampling, with class VII D as the experimental group (n=35) and class VII A as the control group (n=35). Data collection techniques include unstructured interviews, observation, documentation, and questionnaires. The research findings indicate a significant effect of the Problem-Based Learning model on students' critical thinking skills, with a significance value of 0.769. This means that the independent variable (X), the Problem-Based Learning model, has a significant effect of 76.9% on the dependent variable (Y), which is critical thinking skills. The results demonstrate that implementing the Problem-Based Learning model significantly enhances critical thinking skills among Grade VII students at SMP Negeri 8 Purwokerto.

Corresponding Author:
Az Zahra Salsa Billa
Universitas Muhammadiyah Purwokerto
Jl. KH. Ahmad Dahlan, Dukuhwaluh, Kembaran, Banyumas, Jawa Tengah 53182
Email: floranovis12@gmail.com

1. INTRODUCTION

Education can produce sustainable quality with the aim of realizing human beings in the future(Sujana, 2019:29). Progress, especially in the world of education at this time, is going quite rapidly. Education is one thing that has a role to influence the development of a smart nation. A strong contribution of education to a country can change the quality of a nation, therefore education has a position and has a significant influence. Critical thinking arises in the cognition of students through the stages they go through. According to Fatriani & Sukidjo (2018) in (Dewi, 2020:2) Critical thinking is defined as a flow of thinking with the concept of skills, namely applying, analyzing, synthesizing, evaluating information and generalizing.

The development of the 21st century requires students to have competencies, including having critical thinking skills and problem-solving skills, information and communication technology literacy skills, and information and media literacy skills as well as contextual learning skills. Basically, this focuses on the ability to think critically to solve problems, communication and cooperation which are part of *High Order Thinking Skills* (HOTS)(Darwati, 2021:61).

Critical thinking skills are closely related to literacy. Literacy in Indonesia is still relatively low. According to statistical data from UNESCO, the reading interest of the people of Indonesia is very concerning, which is only 0.001%. That means, out of 1,000 Indonesia, there is only 1 person who has an interest in reading. 21st century learning requires humans to have good critical thinking skills, so they will not immediately believe in sources of information if they are not based on facts. Critical thinking skills are still rarely possessed by students because the use of the learning model is still dominated by lecture and assignment methods, so that it gives the impression that Pancasila Education learning is just memorization and is not fun. In addition, the lack of teachers' ability to direct students to think critically, teachers lack opportunities for students to think freely and argue with each other.

Based on the results of observations and interviews conducted by SMP Negeri 8 Purwokerto on Thursday, January 11, 2024, students' critical thinking skills in learning Pancasila Education are still lacking. This can be seen when learning takes place, students are still not enthusiastic in participating in learning, both in terms of asking, answering, refuting, and not being able to collaborate properly. Students still look less communicative and lack confidence in expressing their ideas or opinions on the subject matter according to the learning material. In addition, students are also still incapable of solving or solving questions or problems properly and correctly. In addition, in the learning process of Pancasila Education, it has not been seen using a variety of learning models. The lack of critical thinking skills is also proven through daily test scores. Therefore, based on the problems found in grade VII of SMP Negeri 8 Purwokerto, efforts are needed to solve or follow up on the problems faced by students.

One way that can be done is by learning using a problem-based learning model or called *Problem Based Learning* (PBL). The PBL learning model is a learning model that is a source or foundation that is used based on problems with the aim of building students' critical thinking skills (Ardiyanti, 2016) in (Rahmawati et al., 2019:741). Type *Problem Based Learning* It can be said that it is a strategy where students learn through practical problems related to real life and train students to think critically and how to solve problems in real life (Kartika et al., 2020:3).

Model application *Problem Based Learning* It can also activate learning activities and students are also faced with a problem that requires the ability to think in order to be able to solve and solve problems by giving problems to students. With the ability of teachers to use and choose learning models that are in accordance with the material being taught, it is hoped that students can improve their critical thinking skills. (Slameto, 2010) in (Kartika et al., 2020:3). From the above problems, through this study, the author wants to try to find out whether there is an influence of critical thinking skills on students through the learning model *Problem Based Learning* or referred to as PBL.

The research conducted uses a quantitative approach that functions to test hypotheses from data collected based on previous theories or concepts. The design of this study uses *Quasi Expimen Design.*This experimental design was carried out in close proximity to *pretest* before being given treatment and *posttest* after being given treatment. This research was conducted at SMP Negeri 8 Purwokerto with a time of December 2023-April 2024. The population in this study is all grade VII students at SMP Negeri 8 Purwokerto with a total of 285 students. The data sources in this study use primary data and secondary data. The sampling techniques in this study are *Non-Probability Sampling* with the *Purposive Sampling*. The data analysis used in this study is a data quality test including: instrument validity, reliability, discriminating power, level of difficulty of the question. Descriptive Analysis, and Statistical Analysis include: Normality Test, Homogeneity Test and Hypothesis Test.

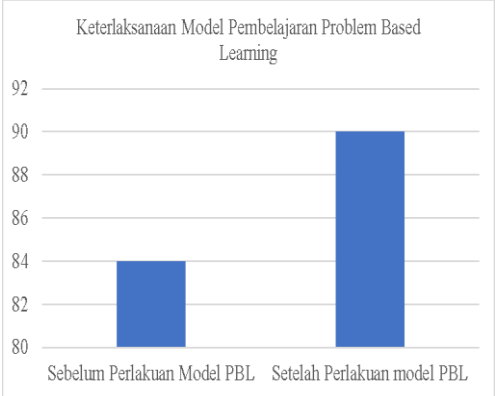
2. DISCUSSION AND CONCLUSION

Model learning process *Problem Based Learning* Between before and after the treatment has improved, this can be measured from the results of observation in the learning process and can be measured through questionnaires *Likert Scale* which contains statements related to the steps in the learning model *Problem Based Learning*, according to Rusmono (2012:81) there are five steps in the learning process *Problem Based Learning* that is:

a. Phase 1 (Providing orientation about problems to students) The teacher starts by asking students to group up, after which the teacher distributes a piece of paper containing pictures and reading texts related to the material
b. Phase 2 (Efforts to Organize Students to Be Able to Learn) The teacher divides students into several groups in a fair and balanced manner, then the teacher does simple activities according to the instructions and distributes student worksheets to each group, and the teacher gives time for students to discuss with their group mates
c. Phase 3 (Guiding Group and Individual Experience) In this phase, the teacher gives an explanation to students about the questions on the worksheet or the teacher gives students the opportunity to ask questions if there are questions that they do not understand
d. Phase 4 (Developing and Presenting Works) In this phase, the teacher directs students to present the results of the discussion in groups.

e. Phase 5 (Conducting assessments and evaluations) In this phase, the teacher provides reinforcement related to the answers that have been presented and together with the students concludes the learning material that has been learned.

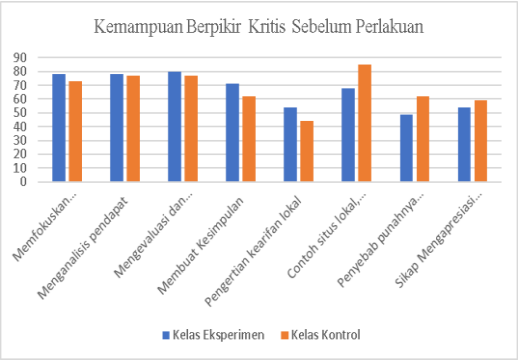
The effect of increasing the implementation of *problem-based learning* models before and after treatment can be seen from the following graph:



Graph 1. Implementation of *Problem Based Learning Model*

Based on graph 1.4 above, it can be seen that the experimental class before the treatment obtained an average of 84% while after the treatment obtained an average of 90%. In this case, it has a meaning, treat the learning model *Problem Based Learning* affect students. This is evidenced by the average after treatment is more than before the treatment. In accordance with the opinion conveyed by Rukmini (2021:46) which states that the learning model *Problem Based Learning* providing an instructional impact in the form of 4C skills, one of which is *critical thinking.* In addition, the learning model *Problem Based Learning* have a significant effect on students. The application of the PBL model has a significant influence on students. These influences include increasing interest in learning, problem-solving skills, learning motivation, and critical thinking of students' learning outcomes. This explains that the use of the learning model *Problem Based Learning* in the learning process has a significant effect on students.

Based on the results of the data that has been presented above, it can be seen that there is a difference in critical thinking skills between students in the experimental class who apply the *Problem Based Learning* learning model compared to the students in the control class who apply the conventional learning model or lectures. The critical thinking ability of students in the control class and the experimental class had a significant difference, namely < 0.05. To measure students' critical thinking skills, the researcher measured using a *Likert scale* questionnaire that contained statements related to the indicators of *the problem-based learning* model and critical thinking skills. The *problem-based learning* model can improve students' critical thinking skills, which can be seen from the improvement before and after the treatment. Before the treatment of using *the problem-based learning* model, students' critical thinking skills are as follows:

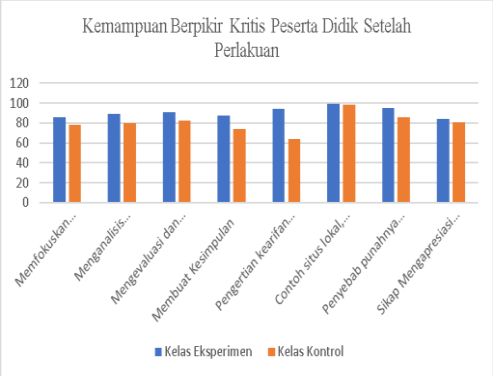


Graph 2. Critical Thinking Skills Before Treatment

Based on graph 2.5 above, it can be seen that before the treatment of *the problem-based learning model* for the experimental class and the conventional learning model for the control class, the indicator of focusing the questions of the experimental class obtained an average of 78% while the control class obtained an average of

73%. In the indicator of analyzing opinions, the experimental class obtained an average of 78%, while the control class obtained an average of 77%. In the indicator of being able to evaluate and assess the observation results, the experimental class obtained an average of 80% while the control class obtained an average of 77%. In the indicator of making conclusions, the experimental class obtained an average of 71% while the control class obtained an average of 62%. In the experimental class indicator, an average of 54% was obtained, while the control class obtained an average understanding of local wisdom, physical and social characteristics of the people in mountainous areas, as well as the functions and benefits of local wisdom for the community, an average of 44%. In the indicators of local site examples, examples of Banyumas traditional culture, Banyumas traditional arts, the experimental class obtained an average of 68% while the control class obtained an average of 85%. In the indicator of the cause of the extinction of national culture, the experimental class obtained an average of 49% while the control class obtained an average of 68%. And in the last indicator of appreciation for local culture, the experimental class obtained an average of 54% while the control class obtained an average of 69%.

The results of critical thinking skills after treatment are higher than before the treatment, which can be seen from the following graph:



Graph 3. Critical Thinking Skills After Treatment

Based on graph 4.3 above, it can be seen that after the treatment of *the problem-based learning model* for the experimental class and the conventional learning model for the control class. In the focusing indicator, the experimental class obtained an average of 86% while the control class obtained an average of 78%. In the indicator of analyzing opinions, the experimental class obtained an average of 89% while the control class obtained an average of 80%. The indicator was able to evaluate and assess the observation results of the experimental class obtained an average of 91% while the control class obtained an average of 82%.

In the indicator of making conclusions, the experimental class obtained an average of 87% while the control class obtained an average of 74%. In the indicators of the meaning of local wisdom, the physical and social characteristics of the people in mountainous areas as well as the functions and benefits of local wisdom for the community, the experimental class obtained an average of 94% while the control class obtained an average of 64%. In the indicators of local site examples, examples of Banyumas traditional culture, Banyumas traditional arts, the experimental class obtained an average of 99% while the control class obtained an average of 98%. In the indicator of the extinction of national culture, the experimental class obtained an average of 95% while the control class obtained an average of 86%. And in the last indicator regarding the attitude of appreciating local culture, the experimental class obtained an average of 84% while the control class obtained an average of 81%.

The two graphs show that there are differences in students' responses to critical thinking skills on the material respecting the environment and local culture before and after the treatment. Students in the experimental class who applied the *problem-based learning* model obtained higher scores compared to students in the control class who used the conventional learning model. *The problem-based learning* model has advantages, one of which is that it can develop students' ability to think critically and develop the ability to adapt to new knowledge.

Based on the results of *the independent simple t test* on the variable of the problem-based learning model , the sig value (2-tailed) was obtained of 0.00 < 0.05. Theability to think critically obtains a score of sig. (2-tailed) of 0.00 < 0.05 and the variable of critical thinking ability in the material respecting the environment and culture obtained a sig value of 0.00 < 0.05, thus it can be seen that there is a difference between the results *of the experimental class post* test and the *control class post test* results.

From the results of the *paired simple t test* with *the independent simple t test*, it can be seen that there is a difference in the average score between the experimental class and the control class. This means that the Ha hypothesis is accepted because the Problem Based Learning *learning model* is influential in improving students' critical thinking skills. This is in accordance with the opinion conveyed by Diah et al., (2016) who explained that *the problem-based learning* model can affect students' critical thinking skills. The problem-based learning *model*

has a significant effect on improving critical thinking skills, the magnitude of the influence is 0.769, which means that it has a significant effect on improving critical thinking skills.

Based on the discussion above, it can be seen that in this study, *the problem-based learning model* has a significant effect on improving students' critical thinking skills in the material Respecting the Environment and Culture at SMP Negeri 8 Purwokerto. This is shown based on the results of the comparison of the experimental class and the control class. The experimental class obtained higher results compared to the control class.

The problem-based learning *model* has a significant effect on improving students' critical thinking skills. This can be shown from the results of the comparison between the experimental class and the control class. The *problem-based learning* model has a significant influence on improving students' critical thinking skills in the material Respecting the Environment and Local Culture Class VII at SMP Negeri 8 Purwokerto. Based on the results of the comparison between the experimental class and the control class, the experimental class obtained higher results compared to the results of the control class. This is shown based on the results of the hypothesis test with an effect result of 0.769 which means that the *problem-based learning* model has a significant influence on improving students' ability to think critically in responding to problems during learning.

REFERENCES

Alawiah, A. L., Damaianti, V. S., & Kosasih, E. (2019). Development Of Students' Critical Attitudes In Literacy Activities At School. International Seminar On Language Check. Http://Proceedings.Upi.Edu/Index.Php/Riksabahasa

Anisa, R. A. I. A. A. S. N. K. (2021). The Influence Of Lack Of Literacy And Low Critical Thinking Skills In Education In Indonesia. In Conference Series Journal (Vol. 01).

Azizah, N. (2023). The Effectiveness Of The Problem Based Learning Model In Shaping Critical Thinking Skills In The Youth Pledge Material In The Framework Of Bhineka Tunggal Ika (Quasi-Experimental Study Of Class Viii At Smp Negeri 3 Ajibarang).

Badarudin, B., Muslim, A., Sadeli, E. H., & Nugroho, A. D. (2022). A Literacy-Based Problem-Based Learning Model To Improve The Critical Thinking Ability And Learning Independence Of Grade Iv Students Of Mi Muhammadiyah Kramat Kembaran. Khazanah Pendidikan , 16(1), 154. Https://Doi.Org/10.30595/Jkp.V16i1.13359

Bambang, H. (2023). The Influence Of Online Learning, Response To The Use Of Problem Based Learning Models And Audio Visual Media On Students' Critical Thinking Skills.

Darwati, M. I. P. I. M. (2021). Problem Based Learning (Pbl): A Learning Model To Develop Students' Critical Thinking. Journal Of Educational Studies Fkip Dwijendra University.

Delaila Siregar, H., Wassalwa, M., Janani, K., & Harahap, I. S. (2024). Al Itihadu Journal Of Education Using Parametric Statistics (Vol. 3, Issue 1). Https://Jurnal.Asrypersadaquality.Com/Index.Php/Alittihadu

Dewi, T. D. (2020). Application Of Problem Based Learning To Improve Students' Critical Thinking Skills. Undiksha Journal Of Economic Education.

Eismawati, E., Koeswanti, H. D., & Radia, E. H. (2019). Improvement Of Mathematics Learning Outcomes Through The Problem Based Learning (Pbl) Learning Model For Grade 4 Elementary School Students. Mercury Journal: Journal Of Mathematics Research And Mathematics Education, 3(2). Https://Doi.Org/10.26486/Jm.V3i2.694

Hotimah, H. (2020). The Application Of The Problem Based Learning Method In Improving Storytelling Skills In Elementary School Students. Journal Of Education.

Husnidar, H. R. (2021). Application Of Problem Based Learning Model To Improve Students' Mathematics Learning Outcomes. Http://Journal.Umuslim.Ac.Id/Index.Php/Asm/

Septiani, H. D. (N.D.). Research Methods.

Sianturi, A., Natalia Sipayung, T., Frida Marta Argareta Simorangkir, And, Saint Thomas, K., Mathematics Education, D., & Catholic Saint Thomas, U. (2018). The Effect Of Problem Based Learning (Pbl) Model On The Mathematical Critical Thinking Ability Of Smpn 5 Sumbul Students.

Siregar, E. W. R. (2015). Learning And Learning.

Sitompul, N. N. S. (2021). The Effect Of Problem Based Learning Model On Improving Mathematical Critical Thinking Skills Of Grade Ix Junior High School Students. Gauss: Journal Of Mathematics Education, 4(1), 45–54. Https://Doi.Org/10.30656/Gauss.V4i1.3129

Sugiyono. (2017). Educational Research Methods (25th Edition). Alphabeta.

Sujana, I. W. C. (2019). Functions And Objectives Of Indonesia Education. Journal Of Basic Education.

Sukardi. (2019). Educational Research Methodology (Damayanti Rtu, Ed.; Revised Edition).

Susilawati, E., Agustinasari, A., Samsudin, A., & Siahaan, P. (2020). Analysis Of The Level Of Critical Thinking Skills Of High School Students. Journal Of Physics And Technology Education, 6(1), 11–16. Https://Doi.Org/10.29303/Jpft.V6i1.1453