IJORER : International Journal of Recent Educational Research
Homepage : https://journal.ia-education.com/index.php/ijorer
Email : ijorer@ia-education.com

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 6, No. 5, September 2025
Page 1543-1550
© 2025 IJORER:
International Journal of Recent Educational Research

The Influence of Problem Based Learning Model on Critical Thinking Skills of Elementary School Students in Social Science

Sinta Maria Dewi[1], Rieke Retnosary[2], Andes Safarandes Asmara[3], Maulida Rohmah Ayu[4], Anggy Giri Prawiyogi[5]
[1]Universitas Buana Perjuangan Karawang, Karawang, Indonesia,
[2]Universiti Teknologi Malaysia, Johor Darul Ta'zim, Malaysia
[3,4,5]Universitas Buana Perjuangan Karawang, Karawang, Indonesia

DOI : https://doi.org/10.46245/ijorer.v6i5.893

Sections Info

Article history:
Submitted: May 15, 2025
Final Revised: September 24, 2025
Accepted: September 29, 2025
Published: September 30, 2025

Keywords:
Problem Based Learning; Critical Thinking; IPAS; Elementary School

ABSTRACT

This study aims to determine the effect of the Problem Based Learning model on the critical thinking skills of grade V students in Social Science subjects at Pasirtalaga II Elemetary School. The method used was pre-experiment with a one group pretest-posttest design. The sample in this study amounted to 32 class five students selected through purposive sampling technique. The instrument used was a description test to measure student critical thinking skills before and after the application of the Problem Based Learning model. The results showed that the average student pretest score was 48.00 which was classified as less critical, while the average posttest score increased to 82.91 and included a very critical category. Statistical tests using Paired Sample T-Test showed a significance value of 0.000 (<0.05) and a t-count of -30.437 > t-table 2.040, which means there is a significant difference between the pretest and posttest results. Thus, it can be concluded that the application of the Problem Based Learning model has a significant effect on improving students' critical thinking skills in Social Science learning.

INTRODUCTION

Education plays an important role in optimizing the development of human resource potential. In the current era of globalization, education does not merely function as a means of delivering knowledge from educators to students, but also emphasizes the development of skills that are relevant to the needs of the times. At the basic education level, it is important to shape 21st century skills. One of the main goals at the primary school level is to equip students with 4C skills, so that they are ready to face the challenges of a world that is constantly evolving and filled with technological advances. 21st century skills, often referred to as the 4Cs, include critical thinking, creativity, communication and collaboration. Success in developing 21st century skills is largely determined by the teacher's ability to design learning that contains 4C elements (Jannah, 2022).

In the midst of the challenges of globalization and the rapid development of technology, critical thinking skills are a major component that determines the success of learning in the 21st century era. These skills help students solve problems, think analytically, make rational decisions, and understand complex social situations. Critical thinking is simply a way of managing knowledge or information by not immediately accepting or rejecting it, but investigating it first through a series of considerations, calculations, testing, and verification. In a broader context, critical thinking can also be an effective way to stimulate students' imagination, innovation, and creativity (Halim, 2022).

However, based on observations in class V of Pasirtalaga II Elemetary School, Social aScience learning is still dominated by the monotonous and continuous lecture

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 6, No. 5, September 2025
Page 1543-1550
© 2025 IJORER:
International Journal of Recent Educational Research

method. In this process, students only act as listeners who receive material from the teacher without being actively involved. This can be seen during Social Science learning activities on energy crisis material, where students have difficulty in analyzing and explaining the causes and impacts of the energy crisis. Students looked confused about the examples given and were unable to relate the material to real situations. This situation causes students' understanding of the teaching material to be low and their critical thinking skills have not been developed optimally.

As a result of these conditions, most fifth grade students at Pasirtalaga II Elemetary School scored below the Criteria for Achieving Learning Objectives (KKTP). Out of 32 students, only 6 students managed to achieve a KKTP score of 73, while the other 26 students had not yet reached KKTP. This is evidenced from the data of the first midterm summative assessment value in the Social Science subject in the 2023/2024 academic year.

In an effort these problems, it is necessary to apply a learning model that is more interactive and encourages active student involvement. Among the various learning models that can be used, the Problem Based Learning (PBL) model is one solution. Through this model, students are trained to think critically by analyzing information, considering various points of view, and solving problems related to real life.

Various studies have shown the success of applying the Problem Based Learning model. (Rahayu, 2019) stated that the low critical thinking skills of students are closely related to the learning approach that has not supported the development of these abilities. In practice, teachers only occasionally encourage students to think independently or find their own solutions to the problems they face. However, after applying the Problem Based Learning model, there was a significant increase in students' critical thinking skills, especially in social studies subjects.

The Problem Based Learning model allows students to not only understand theory, but also actively solve various complex problems in real life. Its application is carried out in groups with a focus on building knowledge and skills through discussion and teamwork (Muhartini, 2023). In the context of Social Science learning, this model is very relevant because it can connect learning materials with real-life situations, so that learning becomes more meaningful. For example, in geography material about natural disasters, students can be given real problems to analyze and asked to formulate solutions based on their knowledge.

RESEARCH METHOD

Grade V students of Pasirtalaga II Eelemtary Scool face problems in learning Social Sciences, where they are still limited to the ability to mention the content of the material without being to analyze, explain in depth, or relate the material to reality. This condition shows that students' critical thinking skills have not been developed optimally.

Therefore, it is necessary to apply a learning model that can encourage students to think more actively and be involved in the learning process, one of which is the Problem Based Learning model that focuses on solving real problems and is relevant to everyday life.

This study used a pre-experiment method with a quantitative approach to determine the effect of the Problem Based Learning (PBL) model on students' critical thinking skills. The research design used is One Group Pretest-Posttest Design, where

IJORER : International Journal of Recent Educational Research
Homepage : https://journal.ia-education.com/index.php/ijorer
Email : ijorer@ia-education.com

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 6, No. 5, September 2025
Page 1543-1550
© 2025 IJORER:
International Journal of Recent Educational Research

one group is given an initial test (pretest), given treatment in the form of learning with the PBL model, then given a final test (posttest).

The population in this study were all students of Pasirtalaga II Elemetary School in the 2024/2025 school year, totaling 391 students. The sampling technique was carried out by purposive sampling based on the level of activeness and student pretest results. The sample used was class 5 A students totaling 32 students.

The main instrument in this study was a critical thinking skills test prepared based on Facione's indicators, namely: interpretation, analysis, explanation, conclusion, evaluation, and self-regulation. The test consisted of 8 description questions related to the material of Indonesia's Geographical Location and Condition. The instrument was tested for validity through content validity with expert judgment technique and statistical test using Pearson Product Moment correlation. The test results show that 8 questions are valid, with a reliability value (Cronbach's Alpha) of 0.639, meaning the instrument is reliable.

The research procedure involved five stages of the PBL model, namely: orienting students to the problem, organizing students to learn, guiding individual/group investigations, developing and presenting work, analyzing and evaluating the problem-solving process. Learning is carried out on the subject of Social Sciences material on the Location and Geographical Conditions of Indonesia. The initial test was conducted before treatment, and the final test was conducted after treatment to measure the improvement of critical thinking skills.

Data on the results of critical thinking skills were analyzed quantitatively by determining the value using the following percentage:

$$Percentage = \frac{Total\ Score}{Maximum\ Score}$$

After obtaining the percentage results of students' critical thinking skills, the researchers classified the level of ability. The classification is as follows:

Table 1. Criteria for Critical Thinking Skill

No	Assesment	Categori
1.	81 – 100	Very Critical
2.	66 – 80	Critical
3.	56 – 65	Quite Critical
4.	41 – 55	Less Critical
5.	0 – 40	Non Kritis

Data on the scores of students' pretest and posttest results were then analyzed using inferential statistics. To determine the difference between pretest and posttest with Paired Sample T-Test test using SPPS software for windows version 25.

RESULTS AND DISCUSSION

Results

Critical thinking skills after learning with the problem-based learning model were measured through a written test containing 8 essay questions, which were carried out before (pretest) and after (posttest) learning. Data on pretest and posttest scores are presented in Table 3.

IJORER : International Journal of Recent Educational Research
Homepage : https://journal.ia-education.com/index.php/ijorer
Email : ijorer@ia-education.com

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 6, No. 5, September 2025
Page 1543-1550
© 2025 IJORER:
International Journal of Recent Educational Research

Tabel 2. Pretest and Posttest Data

Data	*Pretest*	*Posttest*
Number of Students	32	32
The highest score	63	94
Lowest Value	31	63
Average	48,00	82,91

The average pretest score for all indicators of critical thinking skills of grade 5 students of SDN Pasirtalaga II was 48.00, while the average posttest score obtained by students was 82.91. The lowest pretest score obtained by students before using the problem-based learning model was 31, while the highest pretest score obtained by students was 63. Based on the average value of the pretest results, in general, students' critical thinking skills are classified into the less critical category. After applying the problem-based learning model, the students' posttest results showed an increase. The highest score achieved by students on the posttest was 94, while the lowest score was 63. The average posttest score obtained by students is classified into the very critical category.

Then the students' pretest and posttest results were tested using the Paired Sample T-Test test to determine whether there was a significant difference between the pretest and posttest results. The results are as follows:

Table 3. Paired Sample T-Test

Paired Samples Test			
Paired Differences			
95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)
Upper			
-32,567	-30,437	31	0,000

The results of the Paired Sample T-Test test in Table 4. show a significance value (Sig.) of 0.000. Because this value is smaller than 0.05, it can be concluded that there is a significant difference between the pretest and posttest. Table 5 compares the t-count and t-table values as follows:

Table 4. T-Count and T-Table Values

Statistical Test	Value
t - count	-30,437
t – table	2,040

Based on the t-test results, it can be seen in Table 5, the t-count value is -30.437 and the t-table is 2.040. Because t-count> t table, H0 is rejected and H1 is accepted. Thus, there is an effect of the problem-based learning model on the critical thinking skills of Social Sciences fifth grade students of SDN Pasirtalaga II.

Discussion

The characteristics of Problem Based Learning (PBL), which emphasizes contextual problem solving, encourage students to not only passively receive information, but also to actively engage in the process of finding solutions. This is in line with Setiyo's opinion (2018) that PBL develops higher-order thinking skills because students must identify problems, search for data, analyze information, and draw

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 6, No. 5, September 2025
Page 1543-1550
© 2025 IJORER:
International Journal of Recent Educational Research

conclusions. In the context of social studies, social issues presented in learning scenarios can stimulate students to view issues from various perspectives, such as cultural diversity, the environment, or community dynamics.

The results showed that the application of the Problem Based Learning (PBL) model had a positive impact on the critical thinking skills of grade 5 students at Pasirtalaga II Elementary School. Before the treatment, the pretest average score only reached 48.00, indicating the low ability of students to analyze and relate material to real situations. However, after the implementation of PBL, the posttest score increased to 82.91, with students now able to analyze the impact of Indonesia's geographical location on social life, economy, and natural disasters.

The results of the analysis using Paired Sample T-Test showed a t-count value of -30.437, greater than the t-table of 2.040, and a significance of 0.000, which proved the significant effect of PBL on students' critical thinking skills. The application of PBL which emphasizes group discussions and real problem solving has proven effective in encouraging students to think more critically and deeply.

This finding is in line with Vygotsky's theory of constructivism, which emphasizes the importance of social interaction in learning. In addition, this study supports the results of (Helmon's, 2018) study which also showed that PBL improves students' critical thinking skills. Overall, PBL is proven to be effective in improving students' critical thinking skills, especially in learning Social Sciences materials in elementary schools.

CONCLUSION

Based on the results of research conducted in class V SDN Pasirtalaga II in the 2024-2025 academic year regarding Social Sciences learning with the material of Indonesia's Geographical Location and Conditions using the Problem Based Learning (PBL) model, it can be concluded that the application of the PBL model has a significant effect on improving students' critical thinking skills. This is evident from the results of data analysis with the Paired Sample T-Test test which shows a significance value of 0.000 ($p < 0.05$) and a t-count of -30.437, which is greater than the t-table of 2.040, so H_0 is rejected and H_1 is accepted. Therefore, it can be concluded that the application of the Problem Based Learning model is effective in improving students' critical thinking skills in class 5 Pasirtalaga II Elementary School, especially in the material of Indonesia's Geographical Location and Conditions.

REFERENCES

Ahmad, F., Raza, M. A., Abbas, N., & Ali, A. (2025). Impact of Problem based Learning on Critical Thinking of students in the subject of Science at Elementary Level. *The Critical Review of Social Sciences Studies*, *3*(1), 432-443.

Aiman, U. (2025). Validating The Problem-Based Learning Module Based on Local Wisdom Material to Improve Elementary School Students' Critical Thinking Skills in Natural and Social Science Education (IPAS). *Jurnal Penelitian Pendidikan IPA*, *11*(8), 526-534.

Amin, S., Utaya, S., Bachri, S., Sumarmi, S., & Susilo, S. (2020). Effect of problem based learning on critical thinking skill and enviromental attitude. *Journal for the education of gifted young scientists*, *8*(2), 743-755.

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 6, No. 5, September 2025
Page 1543-1550
© 2025 IJORER:
International Journal of Recent Educational Research

Anggraeni, D. M., Prahani, B. K., Suprapto, N., Shofiyah, N., & Jatmiko, B. (2023). Systematic review of problem based learning research in fostering critical thinking skills. *Thinking Skills and Creativity*, *49*, 101334.

Ardiansya, V. O., Negara, S. P. P. S., & Mujiono, N. S. (2024). Increasing Critical Thinking Abilities and Skills through Problem Based Learning for Elementary School Students. *Buletin KKN Pendidikan*, 33-46.

Arnyana, & Ida Bagus Putu. (2019). Pembelajaran untuk Meningkatkan Kompetensi 4C (*Communication, Collaboration, Critical Thinking Dancreative Thinking*) untuk Menyongsong Era Abad 21. *Prosiding*. https://ejournal.unibabwi.ac.id/index.php/knmipa/article/view/829

Azkia, A. S., Maksum, A., & Usman, H. (2025). IMPROVING CRITICAL THINKING ABILITIES IN SOCIAL STUDIES LEARNING USING THE PROBLEM BASED LEARNING (PBL) MODEL USED BY AUDIO VISUAL MEDIA IN ELEMENTARY SCHOOL STUDENTS. *Jurnal Cakrawala Pendas*, *11*(1), 18-32.

Dharma, I. M. A., & Lestari, N. A. P. (2022). The Impact of Problem-based Learning Models on Social Studies Learning Outcomes and Critical Thinking Skills for Fifth Grade Elementary School Students. *Jurnal Ilmiah Sekolah Dasar*, *6*(2), 263-269.

Fitriyani, Y., Supriatna, N., & Sari, M. Z. (2021, April). Critical Thinking Skills through Problem Based Learning Model. In *International Conference on Elementary Education* (Vol. 3, No. 1, pp. 268-278).

Halim & Amar. 2022. Signifikansi dan Implementasi Berpikir Kritis dalam Proyeksi Dunia Pendidikan Abad 21 pada Tingkat Sekolah Dasar. *Jurnal Indonesia Sosial Teknologi*, 3. DOI:10.36418/jist.v3i3.385

Hafizah, M., Solin, S., Purba, C. T., Sihotang, M. M., Rahmad, R., & Wirda, M. A. (2024). Meta-analysis: The impact of problem-based learning (PBL) models on students' critical thinking skills. *Journal of Digital Learning and Education*, *4*(3), 167-179.

Haryanti, Y. D., Sapriya, S., Permana, J., Syaodih, E. W., & Kurino, Y. D. (2022). Improving the Critical Thinking Skills of Elementary School Students through Problem Based Learning and Inquiry Models in Social Science Learning. *Al Ibtida: Jurnal Pendidikan Guru MI*, *9*(2), 292-304.

Helmond, A. (2018). Pengaruh Model Problem Based Learning (PBL) Terhadap Kemampuan Berpikir Kritis Siswa SD. Jurnal Inovasi Pendidikan Dasar, 1(2) 38-52.

Imaduddin, M., & Rusdarti, D. S. Development of Mobile Learning Applications Containing Local Wisdom with Problem Based Learning Model to Improve Social Studies Critical Thinking of Grade V Elementary School Students. *International Journal of Research and Review*, *10*(6), 619-628.

Jannah, Dewi Rahmawati Noer, & Idam Ragil Widianto Atmojo. (2022). Media Digital dalam Memberdayakan Kemampuan Berpikir Kritis Abad 21 pada Pembelajaran IPA di Sekolah Dasar. *Jurnalbasicedu*, 6(1), 1064-1074. DOI: 10.31004/basicedu.v6i1.2124

Kenedi, A. K., Chandra, R., & Fitria, Y. (2019, December). Problem based learning: a way to improve critical thinking ability of elementary school students on science learning. In *Journal of Physics: Conference Series* (Vol. 1424, No. 1, p. 012037). IOP Publishing.

Khairani, S., Suyanti, R. D., & Saragi, D. (2020). The Influence of Problem Based Learning (PBL) Model Collaborative and Learning Motivation Based on Students' Critical

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 6, No. 5, September 2025
Page 1543-1550
© 2025 IJORER:
International Journal of Recent Educational Research

Thinking Ability Science Subjects in Class V State Elementary School 105390 Island Image. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, *3*(3), 1581-1590.

Nofitri, F., & Eriyanti, F. (2024). Improving Critical Thinking Skills of Elementary Students Through Science Learning with Interactive Teaching Materials and Problem Based Learning. *Jurnal Penelitian Pendidikan IPA*, *10*(10), 7624-7633.

Maksum, A., Widiana, I. W., & Marini, A. (2021). Path Analysis of Self-Regulation, Social Skills, Critical Thinking and Problem-Solving Ability on Social Studies Learning Outcomes. *International Journal of Instruction*, *14*(3), 613-628.

Muhartini, Amril Mansur, & Abu Bakar. (2023). Pembelajaran Kontekstual dan Pembelajaran Problem Based Learning. Jurnal Inovasi Ilmu Pendidikan, 1(1) 66-77.

Pebriana, R., & Disman, D. (2017). Effect of problem based learning to critical thingking skills elementary school students in social studies. *PrimaryEdu: Journal of Primary Education*, *1*(1), 109-118.

Qondias, D., Lasmawan, W., Dantes, N., & Arnyana, I. B. P. (2022). Effectiveness of Multicultural Problem-Based Learning Models in Improving Social Attitudes and Critical Thinking Skills of Elementary School Students in Thematic Instruction. *Journal of Education and E-learning Research*, *9*(2), 62-70.

Radiansyah, R., Sari, R., Jannah, F., Prihandoko, Y., & Rahmaniah, N. F. (2023). Improving children's critical thinking skills in elementary school through the development of problem based learning and HOTS models. *International Journal of Curriculum Development, Teaching and Learning Innovation*, *1*(2), 52-59.

Rahayu, Indrianty, Pupun Nuryani, & Ruswandi Hermawan. (2019). Penerapan Model PBL untuk Meningkatkan Keterampilan Berpikir Kritis pada Pelajaran IPS SD. Jurnal Pendidikan Guru Sekolah Dasar, 4(2), 93-101.

Ramadhani, M. I., & Ayriza, Y. (2019). The effectiveness of quantum teaching learning model on improving the critical thinking skills and the social science concept understanding of the elementary school students. *Jurnal Prima Edukasia*, *7*(1), 47-57.

Sasmita, R. N., Sapriya, S., & Maryani, E. (2022). Critical thinking on social studies learning for elementary school students. *Nazhruna: Jurnal Pendidikan Islam*, *5*(3), 1377-1387.

Susanto, T. T. D., Dwiyanti, P. B., Marini, A., Sagita, J., Safitri, D., & Soraya, E. (2022). E-Book with Problem Based Learning to Improve Student Critical Thinking in Science Learning at Elementary School. *International Journal of Interactive Mobile Technologies*, *16*(20).

Setyono, D., Prasetyo, K., & Turhan, M. Y. (2018, December). Influence of problem based learning model on thinking skills critical and student learning outcomes elementary school. In *2nd International Conference on Education Innovation (ICEI 2018)*(pp. 326-331). Atlantis Press.

Susilawati, S., & Supriyatno, T. (2023). Problem-Based Learning model in improving critical thinking ability of elementary school students. *Advances in Mobile Learning Educational Research*, *3*(1), 638-647.

Tapung, M. M., Maryani, E., & Supriatna, N. (2018). Improving Students' Critical Thinking Skills in Controlling Social Problems through the Development of

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 6, No. 5, September 2025
Page 1543-1550
© 2025 IJORER:
International Journal of Recent Educational Research

Emancipatory Learning Model for Junior High School Social Studies in Ruteng City. *Journal of Social Studies Education Research*, *9*(3), 162-176.

Widodo, S. T., Nisa, A. F., & Zulfiati, H. M. (2025). The Effect of Problem-Based Learning Model with Tarl Approach on Natural and Social Sciences Learning Outcomes and Critical Thinking Skills in Elementary School. *Jurnal Cakrawala Pendas*, *11*(3), 750-762.

Witarsa, & Muhammad, S. (2023, January). Critical thinking as a necessity for social science students capacity development: How it can be strengthened through project based learning at university. In *Frontiers in Education* (Vol. 7, p. 983292). Frontiers Media SA.

***Sinta Maria Dewi (Corresponding Author)**
Primary School Teacher Education,,
Buana Perjuangan University Karawang,
Jl. HS. Ronggo Waluyo, Telukjambe Timur, Puseurjaya, Telukjambe Timur, Kabupaten Karawang, Jawa Barat 41361, Indonesia.
Email: sintamaria@ubpkarawang.ac.id

Rieke Retnosary
Faculty og Managemen
Universiti Teknologi Malaysia
Email: retnosary@graduate.utm.my

Andes Safarandes Asmara
Primary School Teacher Education,,
Buana Perjuangan University Karawang,
Jl. HS. Ronggo Waluyo, Telukjambe Timur, Puseurjaya, Telukjambe Timur, Kabupaten Karawang, Jawa Barat 41361, Indonesia.
Email: andes@ubpkarawang.ac.id

Maulida Rohmah Ayu
Primary School Teacher Education,,
Buana Perjuangan University Karawang,
Jl. HS. Ronggo Waluyo, Telukjambe Timur, Puseurjaya, Telukjambe Timur, Kabupaten Karawang, Jawa Barat 41361, Indonesia.
Email: sd21.maulidaayu@mhs.ubpkarawang.ac.id

Anggy Giri Prawiyogi
Primary School Teacher Education,,
Buana Perjuangan University Karawang,
Jl. HS. Ronggo Waluyo, Telukjambe Timur, Puseurjaya, Telukjambe Timur, Kabupaten Karawang, Jawa Barat 41361, Indonesia.
Email: anggy.prawiyogi@ubpkarawang.ac.id