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LITERATURE REVIEW ANALYSIS *PROBLEM BASED LEARNING* (PBL) LEARNING MODELS IN SCIENCE LEARNING IN PRIMARY SCHOOLS

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Abstract This research is motivated by the importance of using the Problem Based Learning model. In this context, the model used in science learning in elementary schools is a problem-based learning model. Literature review or library research is carried out by analysing several research articles. Based on the results of the research above, the Problem Based Learning paradigm is used in science learning in elementary schools and is related to learning outcomes. The problem-based learning model is a learning approach that encourages students to think critically, solve problems, and increase understanding of the material and the willingness to participate in the learning process. Based on the article above, the application of the Problem Based Learning paradigm provides positive results and benefits for science learning in elementary schools.
Keywords: *Science, Problem Based Learning, and Elementary School*

INTRODUCTION

Education is a deliberate and organized effort to build an immersive learning environment so that students actively develop their potential intelligence, strength, self-control, moral character, and the skills important to them in society, state, and nation. Education cannot be separated from the 21st century which demands critical thinking skills, creativity, cooperation and communication. Therefore, learning is needed that supports these 4 aspects, especially the fact that science education includes abilities that are suitable for the 21st century. Science learning motivates students to engage in critical, creative and cooperative thinking.

According to Rahmasari (2016) Science learning involves making connections between the environment and available resources. According to Usman Samatowa (2011:3) The implementation of science education in elementary schools is very important for a number of reasons, including the fact that science education is the technological foundation that drives national progress. If a technology is not based on fundamental knowledge, then the technology will not advance quickly. Students who study science also provide educational benefits that help shape personal character.

Often, there are many tasks in learning exercises that do not actively involve students in learning. The relatively low achievement of student learning outcomes that do not meet the requirements is evidence of frequent failures in achieving learning objectives. Therefore, using

the right learning model in the learning process is very important so that learning can run smoothly.

The Problem Based Learning (PBL) learning model is a suitable model to use. According to Hamdani, et al (2021:754) The problem-based learning approach allows students to gain their own insights and gives them general solutions to track specific solutions to the problems they encounter. By truly solving current challenges, students can expand their learning inspiration and use these difficulties to explore their ideas without being limited by standards among learners. This is in line with the opinion of (Harapit: 2018) Problem-based learning is an educational approach where students are given challenges to solve in order to develop their critical thinking or reasoning skills. From these two points of view, it is clear that the learning paradigm is problem-based. Learning is a learning paradigm that is connected to real world problems. In other words, this strategy can foster in-depth critical thinking skills to overcome problems related to information obtained both collectively and individually.

The problem formulation in this research is (1) what are the results and findings from previous research regarding the use of the Problem Based Learning (PBL) learning model in elementary schools? (2) how to use the Problem Based Learning (PBL) learning model on critical thinking skills, interest and learning outcomes, and student learning motivation.

Based on the problem and problem formulation, the researcher wants to know how to use the Problem Based Learning (PBL) learning model in more depth with the title "Use of the Problem Based Learning (PBL) Learning Model in Natural Science Learning in Elementary Schools"

METHODOLOGY

In this research, the literature or literature review method was used to analyze the problem-based learning approach to science learning in elementary schools. By using the keywords "Problem Based Learning", "Science", and "Primary School", the data source used consists of 10 articles or journals published in the last few years 2019–2024 and contains information from five and six categories. Data analysis uses a descriptive approach, where data is collected, analyzed and summarized to describe a particular problem related to the problem-based learning model. The results of the analysis provide a comprehensive picture of the problem-based learning model used. in the context of science in elementary schools.

RESEARCH RESULT

Based on a literature review of ten journals related to the Problem Based Learning (PBL) learning model, PBL is proven to be able to improve student learning outcomes, increase learning motivation, and foster critical thinking in students. Table of analysis results from various scientific journal references that support the effectiveness of the Problem Based Learning Model Learning (PBL) in Natural Sciences (IPA) learning is explained more clearly as follows:

Hamdani. A, et al (2021) Using the research title "Analysis of the Effect of Using the Problem Based Learning Model on the learning motivation of students in elementary schools". Research Results Based on the research mentioned, selecting an appropriate model can have a big impact on motivation. The influence of the Problem Based Learning learning model on student learning motivation can be measured by student learning outcomes. By implementing the Problem Based Learning (PBL) learning model, students will participate actively in class and make school operations more efficient. These results show that the application of the Problem Based Learning (PBL) learning model has an effect on student learning motivation.

Noviati, Wiwi. (2022), Using the research title "Application of the Problem Based Learning (PBL) Learning Model in improving science learning outcomes in elementary schools" Research results based on the research mentioned. Based on these findings, learning by applying the Problem Based Learning (PBL) learning model can improve results studied science with a completeness percentage in cycle I of 53% and a completeness percentage in cycle II of 92%.

Safitri. Riska, et al. (2023) Using the research title "Analysis of the Application of the Problem Based Learning Model in Class IV Science and Technology Learning at SD Supriyadi Semarang". Research Results Based on the findings of this research show that the application of the Problem Based Learning (PBL) learning model in class IV increases student understanding, making learning more interesting. So it can be said that by applying the Problem Based Learning (PBL) learning model to class IV students there is an increase in student learning outcomes.

Ishlahul'Adiilah. (2023) Using the research title "The Influence of the Problem Based Learning Model on students' critical thinking abilities in science learning" Research Results Based on this research, the Problem Based Learning (PBL) learning model has an influence in developing students' creative thinking abilities in science learning.

Nugroho, et al. (2024) Using the research title "Meta Analysis: The Effect of the Problem Based Learning Model on Elementary School Science Learning Outcomes" Research Results Based on this research, using the Problem Based Learning (PBL) learning model has an effect on science learning outcomes in elementary schools.

Khairiyah. Alfina, et al. (2024)) Using the research title "Improving critical thinking skills in science using the Problem Based Learning Model in grade V Elementary School" Based on Research Results In this research it is said that by implementing the Problem Based Learning (PBL) learning model can improve students' critical thinking skills. The Problem Based Learning (PBL) model has proven to be effective and well implemented in the classroom, because students participate actively during learning so that they can achieve the predetermined standards of success.

Halima. Siti, et al. (2023) Using the research title "Increasing Critical Thinking Ability in science learning through the application of the Problem Based Learning (PBL) learning model in Elementary Schools" Research Results Based on this research, that by implementing the Problem Based Learning (PBL) learning model there is an increase in critical thinking ability significant students, in cycle I the percentage was 43.75%, the percentage in cycle II was 68.75%, and the percentage in cycle III was 87.7%.

Synthica. Rahmi, et al. (2024) Using the research title "Using the Problem Based Learning model based on socio scientific issues to improve the critical thinking skills of fourth grade elementary school students" Research Results Based on this research, students' critical thinking skills increased after using the Problem Based Learning model based on socio scientific issues. seen from the percentage in the pretest of 46.68% and the posttest value of 78.60%.

Fitriana. Erwinda, et al. (2024) Using the research title "Analysis of the Application of Differentiated Learning with the Problem Based Learning Model in Natural Science Material in Elementary Schools" Research Results Based on this research, the application of learning with the problem based learning (PBL) model is suitable for use by combining the two approaches which are effective in increase students' understanding and motivation to learn science subjects.

Rahmasari. Riana. (2023) Using the research title "Application of the Problem Based Learning Model to improve science learning outcomes for fourth grade elementary school". Research Results Based on the research that has been conducted, it can be said that the application of the Problem Based Learning (PBL) learning model can improve the learning outcomes of class IV students at Nglempong Ngaglik State Elementary School, Sleman.

After conducting a literature review of 10 scientific journals related to the Problem Based Learning (PBL) Learning Model in Science Courses, the author can conclude as follows: The PBL Learning Model has a beneficial effect in increasing understanding of science-related subjects. Students gain knowledge through problem-solving analysis and direct experience. In addition to theory, students are expected to understand how science is used in real-world situations. Thus, it can be said that elementary school students' science learning outcomes can be more optimal using the Problem Based Learning Model. Learning through problem-based learning (PBL) has a clear impact on student learning motivation. The findings collected in the analysis of scientific journals say that in the context of science learning, this model can help students learn more. actively participate in the learning process because students will be faced with finding a solution to a condition or problem related to daily life experiences. Students will find the teaching material very interesting and enlightening. The problem-based learning model or Problem Based Learning (PBL) has proven to be effective in developing elementary school students' critical thinking skills. Students will be required to analyze, evaluate and formulate a problem solution critically. Students must actively explore various information and identify several discoveries to understand the solution to the problem given by the teacher.

CONCLUSION

Based on the analysis of 10 journals carried out on the Problem Based Learning learning model in improving science learning outcomes, the results of the analysis of this journal show that the application of the PBL model consistently has a positive impact on student learning outcomes associated with student learning outcome variables and student learning motivation and critical thinking. The recommendation for further research is to conduct a more structured follow-up study in implementing the PBL model so that it has a high chance of success in the elementary school environment. It is estimated that these steps will provide more detailed guidance for practitioners in optimizing research on Problem Based Learning models to improve science learning outcomes on an ongoing basis and can support a more effective science education curriculum.

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