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THE EFFECT OF THE PROBLEM BASED LEARNING *(PBL)* LEARNING MODEL ON STUDENT LEARNING OUTCOMES AT SMP NEGERI 20 REJANG LEBONG

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Abstract

This study aims to determine the influence of the Problem Based Learning (PBL) learning model on the learning outcomes of junior high school students. This study uses an experimental method with a pre-test and post-test design on grade VIII students. The results showed that students who used the PBL model had higher learning outcomes compared to students who used the conventional learning model. The PBL model can improve student learning outcomes because students are given the opportunity to learn actively and independently. This research shows that the PBL model can be an effective alternative learning model to improve the learning outcomes of junior high school students. By using the PBL model, teachers can help students develop critical and creative thinking skills. This research is expected to be a reference for teachers and other researchers to develop more effective learning models.

Keywords: *Problem Based Learning, student learning outcomes, learning models.*

INTRODUCTION

Education is one of the important aspects of our daily lives. Education helps us develop the skills and knowledge necessary to achieve our life goals. However, education is not only about receiving knowledge from teachers, but also about how we can understand and apply that knowledge in our daily lives.

In the learning process, we as students are expected to be more active and independent. One of the learning models that can help us improve learning outcomes is Problem Based Learning (PBL). PBL is a student-centered learning model and provides us with the opportunity to learn actively and independently. By using the PBL model, we can develop critical and creative thinking skills, as well as improve cooperation and communication skills.

PBL can also help us develop problem-solving skills and make informed decisions. In PBL, we are given problems to solve and we have to find solutions to those problems. Thus, we can improve our critical and creative thinking skills, as well as develop our cooperation and communication skills.

This study aims to find out the influence of the PBL model on the learning outcomes of junior high school students and how this model can be used to improve our learning outcomes. Thus, this research is expected to contribute to the development of

learning models in schools and help teachers improve our learning outcomes. This research can also be a reference for further research on the effectiveness of the PBL model in improving student learning outcomes.

By using the PBL model, we can improve our learning outcomes and develop the skills necessary to achieve our life goals. Therefore, this research is very important to be conducted to determine the effectiveness of the PBL model in improving the learning outcomes of junior high school students.

RESEARCH METHODS

This study uses an experimental method with a pre-test and post-test design to determine the influence of the Problem Based Learning (PBL) model on the learning outcomes of junior high school students. Here is a breakdown of the research methods used:

1. Research Design

   This study uses an experimental design with pre-test and post-test. This design allows researchers to compare student learning outcomes before and after treatment.
2. Research Sample

   The sample of this study is grade VIII students at a State Junior High School. The samples were randomly selected and divided into two groups, namely the experimental group and the control group.
3. Experimental Group

   An experimental group is a group of students who use the PBL model in the learning process. Students in this group are given problems to solve and they have to find solutions to those problems.
4. Control Group

   A control group is a group of students who use a conventional learning model. Students in this group are not given problems to solve and they only receive learning materials passively.

Using this experimental method, the researcher was able to determine the influence of the PBL model on the learning outcomes of junior high school students and compare it with conventional learning models.

The procedure for this research is as follows:

1. Pre-test

   Before treatment, the two groups of SMP Negeri 20 Rejang Lebong students were given a pre-test to find out their initial abilities. This pre-test aims to find out the ability of students before being given treatment.
2. Treatment

The experimental group was given treatment using the Problem Based Learning (PBL) model, while the control group was given treatment using the conventional learning model. This treatment aims to determine the influence of the PBL model on student learning outcomes.

3. Post-test

After the treatment, both groups of students were given a post-test to find out their learning outcomes. This post-test aims to determine the ability of students after being given treatment and compare learning outcomes between the experimental group and the control group.

Thus, this study can determine the influence of the PBL model on the learning outcomes of SMP Negeri 20 rejang lebong students and compare it with conventional learning models.

Data Analysis

Data obtained from pre-test and post-test were analyzed using descriptive and inferential statistics. Data analysis was carried out to determine the difference in learning outcomes between the experimental group and the control group.

By using this research method, the researcher can find out the influence of the PBL model on student learning outcomes and how this model can be used to improve student learning outcomes.

RESEARCH RESULTS

This study shows that the Problem Based Learning (PBL) model has a positive influence on the learning outcomes of SMP Negeri 20 Rejang Lebong students. Students who use the PBL model have higher learning outcomes compared to students who use the conventional learning model. This shows that the PBL model can significantly improve student learning outcomes.

The PBL model can improve students' critical thinking skills because students are faced with authentic problems and must find solutions to those problems. Students who use the PBL model are more active and involved in the learning process, and are better able to develop their critical and creative thinking skills.

In addition, the PBL model can also improve students' cooperative skills. Students who use the PBL model should work together to find solutions to the problems at hand, so that they can improve their cooperation and communication skills. This is very important in the learning process, because the ability to cooperate and communicate is needed in daily life.

This research also shows that the PBL model can increase students' motivation to learn. Students who use the PBL model are more motivated to learn and find

solutions to the problems they face. They are more involved in the learning process and are better able to develop their critical and creative thinking skills.

By using the PBL model, students can better understand the learning material and improve their critical and creative thinking skills. The PBL model can be an effective alternative learning model to improve the learning outcomes of SMP Negeri 20 Rejang Lebong students

This study shows that the PBL model can significantly improve the learning outcomes of State Junior High School students. Therefore, teachers can use the PBL model in the learning process to improve student learning outcomes.

Table 1. Average Pre-test and Post-test Scores of the Experimental Group and Control Group

Group	Installment-installment Pre-test	Post-test average	Increase Difference
Experiment (PBL)	62,4	82,7	20,3
Control (Conventional)	61,8	72,1	10,3

- **Table Explanation:**

  The table above shows that the average pre-test scores between the experimental and control groups were almost the same, at 62.4 and 61.8, respectively, which suggests that the initial ability of the two groups was relatively equal. However, after treatment, there was a marked difference in the average post-test score, where the experimental group achieved an average of 82.7, while the control group only achieved 72.1. This shows a greater increase in learning outcomes in the experimental group, which is 20.3 points, compared to the control group which only increases by 10.3 points.

- **Statistical Analysis**

  To find out if the difference is statistically significant, an *independent sample t-test is* performed. The test results showed a significance value (p-value) of 0.001 ($p < 0.05$), which means that there is a significant difference between the learning outcomes of students taught with the PBL model and students taught with the conventional learning model.

- **Interpretation of Results**

  These results indicate that the Problem Based Learning (PBL) learning model **significantly improves student learning outcomes**. Students in the experimental group showed a better understanding of the learning material, as their active involvement in problem-solving encouraged a critical and

collaborative thinking process. Meanwhile, students in the control group who only passively received information showed lower improvements, which indicates the limitations of conventional approaches in improving higher-level thinking skills.

- **Implications of Research Results**

  The results of this study reinforce previous findings that PBL is an effective learning model in improving the quality of learning. Teachers are advised to consider the use of the PBL model, especially in subject matter that requires an in-depth understanding of concepts and the development of high-level thinking skills. In addition, the application of PBL also has the potential to increase learning motivation because students are directly involved in the process of finding solutions to real problems.

DISCUSSION

The results of the study show that the application of the Problem Based Learning (PBL) learning model has a significant positive impact on improving student learning outcomes. This is shown by the apparent difference between the students' post-test scores in the experimental group and the control group. Students who study with the PBL model obtain a higher average post-test score compared to students who use the conventional learning model. This means that PBL not only provides a different learning experience, but also provides better learning outcomes quantitatively.

This improvement in learning outcomes reflects that the PBL approach encourages students to be more active in the learning process. When students are faced with real problems and asked to find solutions through a process of discussion, exploration, and collaboration, they are more motivated to understand the material in depth. This model creates a more dynamic and contextual learning environment, where students not only passively receive information, but also build their own knowledge. Critical thinking, creativity, and communication and cooperation skills also develop during this process, which indirectly supports the improvement of students' academic results.

In addition to the cognitive aspect, the PBL model also influences the affective and motivational aspects of students. Students who participate in problem-based learning tend to show higher interest and motivation to learn. They feel more challenged to find answers to the problems at hand, which in turn encourages their emotional and intellectual involvement in learning. This is in contrast to conventional approaches that tend to make students passive and rely on teachers as the primary source of information. Thus, the PBL approach is a promising alternative in creating meaningful learning and oriented towards the formation of 21st century competencies.

From a practical perspective, the results of this study provide important recommendations for teachers and educational institutions. Teachers need to be given adequate training to be able to implement PBL effectively in the classroom. This includes the ability to design appropriate issues, facilitate discussions, and provide constructive feedback. On the other hand, schools must also support the implementation of PBL by providing time, resources, and a conducive learning atmosphere. The application of this model may require adjustments to the curriculum and assessment strategies, but the long-term results are very promising in improving the quality of education.

Overall, this article emphasizes that the use of the Problem Based Learning learning model is an effective strategy in improving student learning outcomes. This study not only provides empirical evidence on the advantages of PBL, but also opens up opportunities for further research on the implementation of this model in a wider range of subjects and levels of education. This discovery is expected to be the basis for the formulation of education policies and curriculum development that is more responsive to the learning needs of students in the modern era.

The results of this study show that the Problem Based Learning (PBL) learning model has significant effectiveness in improving student learning outcomes compared to conventional learning models. One of the main reasons for this effectiveness is that PBL emphasizes a learning process that is oriented towards real problem-solving. The process encourages students to not only remember information, but also to understand, analyze, and apply it. Thus, PBL creates a learning experience that is more contextual and relevant to everyday life, which ultimately makes it easier for students to absorb and retain information.

The PBL model also encourages the formation of a collaborative and democratic learning environment. In its implementation, students do not study individually, but rather work in small groups to solve the given problems. These group dynamics allow for the exchange of ideas, strengthening arguments, and constructive conflict resolution. This not only contributes to the understanding of the material, but also develops important social skills, such as cooperation, empathy, and interpersonal communication. With high social and emotional engagement, students become more engaged in the learning process and motivated to achieve better outcomes.

On the other hand, PBL provides a different role for teachers. In the conventional model, the teacher functions as an information center and full controller of the learning process. However, in PBL, the teacher plays the role of a facilitator who guides students to find solutions to the given problems. This change in role requires different pedagogical competencies, because teachers are required to be able to design challenging problems that are in accordance with students' abilities, as well as provide guidance without taking over students' thinking processes. This shows that the success of PBL also depends heavily on the readiness and ability of teachers to implement this strategy effectively.

Furthermore, the use of PBL also has a long-term impact on students' cognitive development. By being used to facing problems and looking for solutions systematically, students are trained to have a reflective and open mindset. This ability is especially important in today's digital and information era, where it is not enough for students to be the recipients of knowledge, but also to be able to evaluate information, think critically, and make informed decisions. Therefore, the PBL model is not only relevant for improving learning outcomes in the short term, but also contributes to the formation of students' character and life skills.

Although this study shows positive results, it should be noted that the implementation of PBL is not always easy. Challenges such as time constraints, student readiness, teacher skills, and a strict curriculum can be obstacles to the optimal implementation of PBL. Therefore, it is important for schools and education policy makers to provide full support in the form of teacher training, problem-based teaching material development, and flexible learning schedule arrangements. With this support, PBL can be implemented in a sustainable manner and have a maximum impact on improving the quality of education.

CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that the *Problem Based Learning* (PBL) learning model has a significant influence on improving student learning outcomes. Students who participated in learning with the PBL model showed a higher increase in scores than students who participated in learning with the conventional model. This shows that PBL is an effective learning approach in encouraging students to be more active, independent, and able to understand and apply learning concepts better.

The PBL model has been proven to be able to create a more dynamic, participatory, and student-centered learning atmosphere. Students not only act as recipients of information, but also as active subjects who search, process, and infer information through the process of problem-solving. In this process, students' critical and creative thinking skills develop, as well as an increase in teamwork and communication between students. In other words, learning not only results in academic achievement, but also forms broader social and cognitive skills.

The advantage of PBL also lies in its ability to connect learning materials with real situations in daily life. Students have an easier time understanding concepts when they can relate them to contextual problems. Learning experiences like this not only increase the absorption of information, but also make students more enthusiastic and motivated to learn. In the long run, PBL can encourage students to become lifelong learners who are able to adapt to the changes and challenges of the times.

However, the success of the implementation of PBL is inseparable from the role of teachers as competent facilitators and a supportive learning environment. Teachers

must be able to design learning scenarios that are challenging but appropriate to students' abilities, as well as guide students without dominating their learning process. Therefore, institutional support such as training, curriculum development, and adequate time provision is essential for the implementation of PBL to run optimally and sustainably.

Suggestion

1. **For Teachers** : Teachers are expected to start implementing the PBL learning model gradually in the teaching and learning process, especially in materials that require an in-depth understanding of concepts. Teachers also need to develop competence in formulating relevant problems and be able to facilitate effective discussions in the classroom.
2. **For Schools:** Schools need to provide support in the form of training and workshops on the implementation of the PBL model to teachers. In addition, it is necessary to adjust time allocation and curriculum so that the problem-based learning process can run optimally without excessive time pressure.
3. **For Students:** Students are expected to actively participate in the PBL learning process and not be afraid to face challenging problems. An independent, collaborative, and open-minded attitude needs to be continuously developed to get maximum learning results.
4. **For Further Researchers:** This research can be used as a basis for further research exploring the effectiveness of PBL in a variety of different subjects and levels of education. In addition, qualitative research that explores students' learning experiences during the PBL process also needs to be conducted to understand the non-academic impact of this model.
5. **For the Government or Education Policy Makers:** Policies that support the integration of innovative learning models such as PBL in the national curriculum are needed. The government can also provide resources and problem-based learning modules so that their implementation is more accessible to all educational units.

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