

Implementation of the Problem Based Learning Model to Increase Learning Achievement and Motivation Theme 8 Class IIIB Students in SD Negeri X

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1. ABSTRACT

Learning is one of the real implementations in education. Factors that support the success of learning include internal and external factors. Two of these factors are motivation and learning achievement. The researcher's pre-cycle observations stated that the teacher was not able to use a learning model that could increase the motivation and learning achievement of class IIIB students at SDN X. This study aimed to: (1) describe the steps for implementing the Problem Based Learning model to improve student achievement and motivation learning, (2) increase student achievement through the application of the Problem Based Learning model, and (3) increase learning motivation through the application of the Problem Based Learning model. This research is a collaborative classroom action research with teacher and student subjects. Data collection techniques used observation, interviews, and tests with research instruments, namely observation sheets, interview sheets, questionnaire sheets, and evaluation test questions on the theme of 8 Praja Muda Karana. Data validation using triangulation of sources and techniques. Data analysis was carried out through data reduction, data presentation, and drawing conclusions. The results of this study are: (1) the application of Problem Based Learning which is carried out through five syntaxes; (2) the application of PBL can increase student achievement seen from the average student completeness (KKM = 67) in cycle I = 92.60% increased in cycle II = 98.15%; and (3) the application of PBL can increase student learning motivation with the amount in cycle I = 83.43% increasing in cycle II = 86.78%.

Keywords: Problem Based Learning, learning achievement, learning motivation.

2. INTRODUCTION

One way to advance a nation is through education. Advanced education will give birth to quality human resources not only in terms of knowledge, skills and attitudes that can benefit themselves and others (Fauzia, 2018). In its application, education consists of primary, secondary and higher education. The teacher is an agent in charge of implementing learning. All efforts made by the teacher to improve student learning outcomes, including activities to plan, implement and evaluate student learning outcomes.

One way to measure the success of learning with internal factors and external factors. According to Hartaya & Lasrin, internal factors include motivation, talent, intelligence, and interests, while external factors include the environment (natural, social, and school), family and community (Neni, 2021). One of the factors that is continuous with the problems faced by SDN X is the motivational factor. According to Uno, learning motivation relates to encouragement that comes from within and outside of students who support students to be active in learning (Yati, 2022). In this case the researcher uses the indicators from Neni (2021), which are as follows: (1) diligently facing the task; (2) not easy to give up or tenacious in facing problems; (3) show interest in learning; (4) achievement in learning; (5) independent in learning; (6) quickly get bored with routine tasks; and (7) happy to solve problems.

Another factor that determines the success of learning according to Amir is learning achievement which can be observed from cognitive, affective and psychomotor aspects (Rasto & Pradana, 2021) in this case learning achievement has an important influence on learning success. According to Eka, learning achievement is learning outcomes that are determined by measurement and assessment in the cognitive domain (Anggreni, 2019).

From observations made on teachers in teaching on April 10 2023 in class IIIB SDN X, it shows that teachers have not been able to innovate classes. This can be seen from the objectives

that are not in accordance with the ABCD formulation, the model/method/media used is still simple, there is no modification of the lesson plan, the assessment has not been carried out fully, and the students have not understood the lesson well, so it can be understood that the teacher has not been able to maximize learning. In addition, during the pre-cycle learning practice on April 14, 2023, 15 out of 27 had not yet reached the KKM that had been determined. This means that 55.5% of students still have not achieved learning achievement according to predetermined KKM standards. On the same day, observations of aspects of learning motivation found that there were still students who were not motivated to learn. With the observation results of 17 students who did not meet the indicators of motivation to learn, there was no sense of curiosity about the phenomena presented, they preferred to play rather than study, they cared more about stars than test results, did not take advantage of free time to study, were not interested in learning, students were interested in problem case studies. in the field.

The low achievement and motivation to learn is a problem in learning, so it needs improvement and guidance to improve these two aspects. Problem Based Learning or here in after referred to as PBL is a model that can be used to overcome these problems. PBL is defined as learning that prioritizes problem solving aspects that allow students to think critically to analyze and take solutions to the problems presented, resulting in learning motivation that leads to improving student learning outcomes (Yati, 2022). Based on previous research, Susanti, Solikhan and Ain (2017: 2) stated that the Problem Based Learning Model can increase student motivation and learning achievement. In addition, in other studies it was stated that the Problem Based Learning model could improve student learning process activities in elementary school thematic learning (Fatmawati, Syawaluddin, and Dahlan, 2021). Reinforced from the research of Yusuf, Zainal and Yusmira (2022) which states that the PBL model can increase student achievement. So it can be concluded that Problem Based Learning can increase the motivation and learning

outcomes of students in the thematic learning process of elementary schools. From these various studies, researchers are interested in using the PBL model to increase the motivation and learning achievement of students at the elementary school level.

Based on the description above, the objectives of this study are: (1) to describe the steps of Problem Based Learning model to increase achievement and learning motivation in theme 8 in class IIIB SD Negeri X students, (2) to increase learning achievement in theme 8 in class IIIB SD Negeri X through the application of the Problem Based Learning model, (3) increasing motivation to learn theme 8 in class IIIB SD Negeri X through the application of the Problem Based Learning model.

3. METHODS

3.1. Participants and context

The research subjects came from all students of class IIIB SDN X consisting of 14 boys and 13 girls or a total of 27 students. With a focus on collaborative action research involving elements of elementary school lecturers and teachers with a design from Kemmis and McTaggart from the results of Kurt Lewin's development which consists of four stages, namely: (1) planning, (2) implementation, (3) observation, (4) reflection (Sultan and Hajerina, 2020).

3.2. Material

The data used is in the form of qualitative and quantitative data. Data collection techniques using observation, interviews, and tests. The research instruments used were observation sheets, interview sheets, questionnaire sheets, and evaluation test questions on theme 8 with the theme of Praja Muda Karana. The data analysis model according to Miles and Huberman (Sugiyono, 2018: 404-412) consists of three steps, namely data reduction, data presentation, and drawing

conclusions. This research was conducted from April to May 2023. This research was carried out in two cycles with two meetings in each cycle.

3.3. Data Collection and Analysis

Data collection using observation sheets was carried out on the Problem Based Learning model variables in increasing learning achievement and motivation.

a. Implementation Problem Based Learning Model

The observation sheet is used to measure the teacher's level of accuracy in carrying out learning and the seriousness of students in participating in learning by applying the Problem Based Learning model. The observer will fill in the observation sheet through direct observation of the teacher and students when learning is carried out. Assessment is measured by calculating the total score achieved in filling out the instrument. The instrument in the observation sheet is in the form of a rating scale which is described in the form of a 0-4 scoring scale in which each score has a descriptor. Each descriptor that is fulfilled will get a score of 1 and if no descriptor is fulfilled, then a score of 0 will be obtained. The following is the method used in processing the observed data.

$$\text{Percentage of PBL Implementation} = \frac{\text{Overall score obtained}}{\text{Maximum score}} \times 100\%$$

The assessment criteria used for this observation sheet use five scales according to Arifin (Utomo, 2021) as follows:

Table 1. Criteria for Assessment of the Application of the Problem Based Learning Model

Accuracy Level	Standard Score	Information
90%-100%	A	Very good
80%-89%	B	Good

70%-79%	C	Enough
60%-69%	D	Low
0-59%	E	Very Low

(Utomo, 2021)

b. Motivation to learn

The learning motivation variable uses a questionnaire with 25 statements consisting of 20 positive statements and 5 negative statements made based on indicators of learning motivation, namely: (1) diligent in facing assignments; (2) not easy to give up or tenacious in facing problems; (3) show interest in learning; (4) achievement in learning; (5) independent in learning; (6) quickly get bored with routine tasks; and (7) enjoy solving problems (Neni, 2021).

The questionnaire scale criteria used a Likert scale type consisting of strongly agree, agree, disagree and strongly disagree options. The following is a method used in processing observational data.

$$\text{Percentage of Motivation Learning} = \frac{\text{Overall score obtained}}{\text{Maximum score}} \times 100\%$$

The criteria for assessing student learning motivation are as follows:

Table 2. Learning Motivation Assessment Criteria

Average value (%)	Assessment criteria
85,01 % - 100,00 %	Very high
70,01 % - 85,00 %	High
50,01 % - 70,00 %	Currently
01,00 % - 50,00 %	Low

(Khusna, Sudaryanto, Dian, 2020)

c. Learning achievement

The learning achievement variable was made using an evaluation test which consisted of multiple questions, entries and descriptions covering the theme of eight young students of Karana. Student achievement can be said to increase if there is an increase in grades with KKM ≥ 67 . The following is the method used in processing student achievement data.

$$\text{Completeness of learning outcomes} = \frac{\text{Number of completed students}}{\text{Number of all students}} \times 100$$

The learning achievement assessment criteria used in this study are as follows:

Table 3. Learning Achievement Assessment Criteria

Average value (%)	Assessment criteria
90 % - 100 %	Very high
80% - 89%	High
65% - 79%	Good
55% - 64%	Enough

(Khusna, Sudaryanto, Dian, 2020)

3.4. Ethical Consideration

Ethical considerations in this study were carried out carefully by disguising the names of

schools and students who were used as research objects. In addition, the research instruments used have gone through the consultation and test stages to maintain the quality of the results of the research conducted.

3.5. Limitations to the study

This type of research is collaborative classroom action research. Classroom action research is action research conducted with the aim of improving the quality of learning practices (Sitorus, 2021). In carrying out this research, researchers faced several limitations that could affect the conditions and results of the study. The limitations include: (1) limited research time, PTK is carried out in learning practice implementation activities (PPL), researchers have limitations in collecting research data, namely being limited by adjusting the time of implementing learning practice activities (PPL); and (2) this research is limited to the problem-based learning model as an independent variable, with the dependent variable namely learning achievement and motivation. The research instrument used uses indicators developed by researchers based on several sources of literature. Other researchers can develop the application of PBL to other variables.

4. Results and Discussion

This research was carried out in two cycles with two meetings in each cycle with the steps of the Problem Based Learning model which refers to the steps of Jon (2022) which consist of: (1) problem orientation, (2) organizing students to learning, (3) guiding group or independent investigations, (4) developing and presenting the results of problem solving analysis, (5) analysis and evaluation of results and problem solving processes. The research data were obtained from observational data on teachers and students, increased student achievement in class IIIB on theme 8, and the results of the analysis of student learning motivation questionnaires. The application of the Problem Based Learning model in learning has experienced various improvements in its

implementation to obtain maximum results and achieve the targeted research performance indicator of 85%. The following is a presentation of the results and discussion of classroom action research for two cycles.

1. Observation Results of Teachers and Students

In this study, the research instrument used indicators from the learning steps of the Problem Based Learning model to be observed in the implementation of learning. Comparison between cycles The results of observations of teachers and students can be seen in Table 1 and Figure 1 below.

Table 4. Intercycle Comparison of Observation Results of the Application of the Problem Based Learning Model to Teachers and Students

PBL Model Steps	Siklus I		Siklus II		Average	
	T	S	T	S	T	S
	(%)	(%)	(%)	(%)	(%)	(%)
Problem Orientation	84.38	81.25	93.75	93.75	89.07	87.5
Organizing students to study	81.25	78.13	90.63	90.63	85.94	84.38
Guiding individual and group investigations	75	78.13	87.5	87.5	81.25	82.82
Develop and present the results of problem solving analysis	81.25	75	90.63	87.5	85.94	81.25
Analysis and evaluation of results and problem solving processes	81.25	81.25	90.63	97.5	85.94	89.38
Average	80.63	78.75	90.63	89.38	85.63	84.07

Based on table 1 above, it can be seen that the percentage of observations of teachers in carrying

out learning by applying the Problem Based Learning model in cycle I = 80.63%, and cycle II = 90.63%. The percentage of observations on the seriousness of students in participating in learning by applying the Problem Based Learning model in cycle I = 78.75%, and cycle II = 89.38%. The following is a graph of the observations of the application of the Problem Based Learning model to teachers and students in cycles I and II.

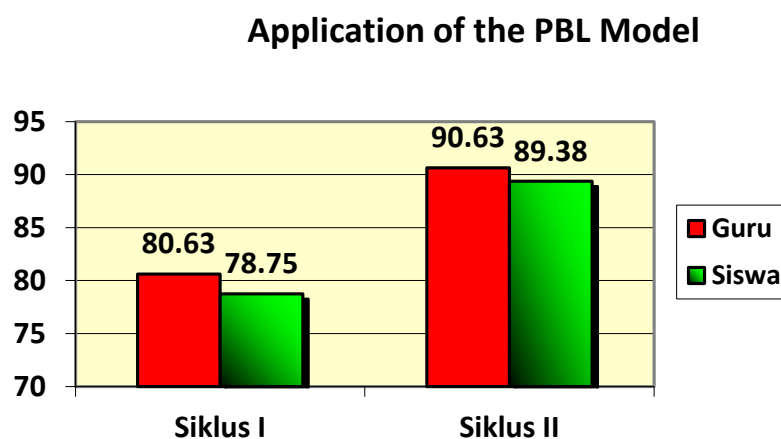


Figure 1. Comparison of the Observation Results of the Application of the Problem Based Learning Model to Teachers and Students in cycles I and II

Based on table 1 and figure 1, it can be seen that the percentage of observations on the application of the Problem Based Learning model to teachers and students in cycles I and II has increased in each cycle. This can happen because every obstacle or problem that arises is always sought for a solution and repaired to get optimal results. Overall each cycle has experienced an increase and reached the research performance indicator of 85%.

2. Increasing Student Learning Achievement

The increase in learning achievement was taken from the value of the evaluation results at

each meeting with the minimum completeness criteria taken from the thematic minimum KKM score at SDN X of 67 for all content in one lesson.

Data on student achievement in theme 8 was obtained based on the results of evaluation tests at the end of learning at each cycle I and cycle II meeting. Comparison of student achievement in Theme 8 can be seen in table 2 and figure 2 below.

Table 5. Student Learning Achievement Theme 8 Cycles I and II

	Cycle I		Cycle II	
	Meeting	Meeting	Meeting	Meeting
	1	2	1	2
Average Value	90.19	91.11	89.68	93.85
Complete Student	24	26	26	27
Completeness Percentage	88.89%	96.30%	96.30%	100%
Cycle Average	92,60%		98,15%	

Based on table 2 above, it can be seen that there was an increase in the percentage of student completeness at several meetings until the cycle ended, namely 88.89% at meeting 1 cycle I, increased to 96.30% at meeting 2 cycle I and meeting 1 cycle II, and returned to a maximum increase of 100% at meeting 2 cycle II. This proves that the application of the Problem Based Learning model has a positive impact on student learning outcomes. This is in line with the research submitted by Yusuf, Zainal and Yusmira (2022) which states that the PBL learning model can improve thematic learning in elementary students in the Bambamone, Pasangkayu area with a presentation elevation of 50% to 70% or an increase supported also

by Susanti, Solikhan and Ain (2017: 2) which produces research data of 80% on increasing learning achievement

In addition to the percentage of student completeness, it is also known that the average student scores in cycles I and II. The following is a graph of the average value of student achievement in cycles I and II.

The average value of student achievement

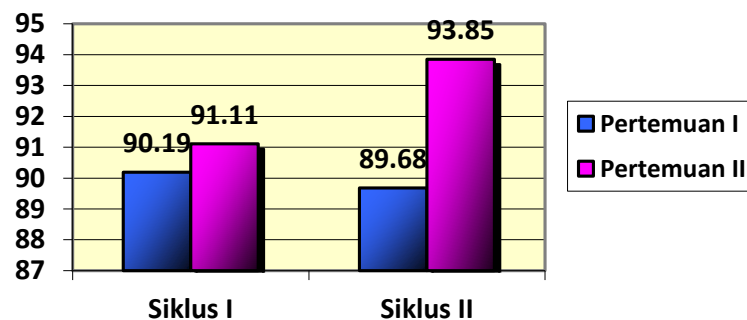


Figure 2. The average value of student achievement grades IIIB theme 8 cycles I and II

Based on figure 2 above, it is known that at meeting 1 cycle II there was a decrease in the average score due to an increase in the level of difficulty of the material, but this can be corrected in the implementation of meeting 2 cycle II as evidenced by the increase in the average student score again.

3. Learning Motivation

Based on two cycles with two meetings in each cycle, it was found that there was an increase in learning motivation at each meeting in each cycle. The data was obtained from a questionnaire which assessed the average results of each cycle. The following table shows the results of

increasing learning motivation for each cycle

Tabel 6. Peningkatan Motivasi Belajar Siswa

Information	Pre cycle	Cycle I		Cycle II	
		Pert 1	Pert 2	Pert 1	Pert 2
Average value	79,85	82,67	84,19	86,07	87,48
The highest score	89	91	91	93	93
Lowest score	68	71	79	80	82
Cycle Average	79,86	83,43		86,78	

From the implementation results it can be observed that the average value of learning motivation in pre-cycle tends to be low, namely 79.86%. After the implementation of the first cycle there was an increase of 3.57% to 83.43% with high criteria. Then in the second cycle the average return value increased by 3.35% to 86.78%. Based on the table of criteria for increasing learning motivation by Sardiman, it is known that in the final cycle, students' learning motivation has reached very high criteria, so it can be concluded that the application of the Problem Based Learning model can increase student learning motivation. This is in line with the results of research by Susanti, Solikhan and Ain (2017: 2) which states that there is a relevance of increasing learning motivation by 87.51%

5. CONCLUSION

The conclusions of this study are: (1) the application of the Problem Based Learning model to improve achievement and motivation in learning theme 8 in class IIIB SD Negeri X students is

carried out using the following steps: (a) problem orientation, (b) organizing students to learn, (c) guide individual and group investigations, (d) develop and present the results of problem solving analysis, (e) analysis and evaluation of problem solving results and processes; (2) the application of PBL can increase student achievement seen from the average student completeness (KKM = 67) in cycle I = 92.60% increased in cycle II = 98.15%; and (3) the application of PBL can increase student learning motivation with the amount in cycle I = 83.43% increasing in cycle II = 86.78%.

The practical implication is that the Problem Based Learning model can be used as an alternative solution to increase student motivation and achievement. Schools can provide facilities, infrastructure and facilities to support teachers in innovating using learning models to improve the quality of learning. This research can be used as a reference source to create other innovative learning activities that are in accordance with the characteristics of students and the development of increasingly advanced science.

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