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The use of Problem Based Learning in Improving Students' Learning Achievement

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Abstract

This research was aimed at improving student learning outcomes in IPS subject on 7th grade SMP N 4 Pontianak. The research was using *Problem Based Learning* method. It used descriptive method with qualitative design. It was implemented through 2 cycles, in which each cycle consisted of four steps such as planning, acting, observing, and reflecting. The data collecting techniques used in this research were direct observation and students' learning outcomes. Based on the result of analysis showed that there was an improvement in learning activity in the first cycle as 60% meanwhile the second cycle showed 71%. The student outcomes at the first cycle showed 56% and the second cycle improved to be 76,5%.

Keywords: Learning outcome, IPS, Problem Based Learning Method.

Introduction

The IPS subjects are developed in the form of simplified thematic and integrated learning in accordance with social science disciplines, and other disciplines that are tailored to the related social problems that are presented scientifically according to their objectives. The purposes of IPS education are to introduce the concepts related to the people's lives and their environment, to have basic abilities in solving problems and to have the ability to cooperate in various aspects of life. As one of the subjects in junior high school, IPS has a very broad relationship related to human life. The materials cover the concepts of geography, history, sociology and economics. So that IPS learning combines the basic concepts of social science through education, meaningful and is expected to be a provision for students' daily life.

As the subjects of education, the students are expected to play an active role in finding any information personally or in groups. The teacher is just as a facilitator and guide to optimize the achievement of knowledge learned. In learning, the students should have the courage to think according to what they are understanding of.

In fact, the students' learning achievement at school has not been successful and the teacher tries to teach students with the materials based on the curriculum applied at school. The teaching and learning activities implemented at schools are generally carried out in a monotonous way and dominated by one-way lecturing. As a result of such teaching methods, many students are passive in every learning process at classroom.

In terms of learning outcomes that are not satisfactory. The daily assessment results achieved by the students in class VII A of SMP Negeri 4 Pontianak were still relatively low and the range to achieve the minimum standard score (KKM) was still high. The low of student learning achievement can be identified by several problems: the lecturing method used was not effective, the low of student participation in learning, the learning atmosphere was less attractive, the use of learning methods were less innovative, and teachers centered teaching model made the students talked a lot with their classmate.

One of the ways to overcome this problem and to achieve better goals were by applying the problem-based learning method.

This method was chosen to encourage teachers to do not only apply lecturing model in delivering IPS learning material. By using this method, the students are involved directly so that it will encourage them to be active in learning activities and are expected to increase their learning achievement and changes in attitudes according to the objectives and function of IPS learning. The success of learning is determined by the teaching model, the readiness of the teacher and is also influenced by the active involvement of students. Without any attention given by the students in learning process, the objectives will not be achieved properly. The active participation of students is one of the keys that ultimately can improve learning outcomes as an effort to support the improvement of the education quality.

Wina Sanjaya (2006: 214) stated "problem-based learning strategies are defined as a series of learning activities that emphasize the process of solving the problems scientifically. Problem based learning in this research was a method used by the teacher to improve IPS learning achievement so that the students can understand and remember the material they learnt by orienting on problems, learning organizations, individual and group investigations, developing and presenting the results of problem solving, as well as analyzing and evaluating the problem-solving process

According to Bistari (2015: 90) stated "learning achievement can be concluded as the changes in positive behavior and abilities possessed by students from an interaction in learning and teaching with formed in cognitive, affective and psychomotor learning outcomes. Endang Komara (2014: V) learning achievement is the students' capability as first, verbal information: the ability to express knowledge in the form of language, both oral and written, having verbal information that allows the individuals to play a role in real life. Second, intellectual skills: skills that relate to the environment and present the concepts and symbols. This intellectual skill consists of plural, concept, concrete, defined and principle discrimination. Third, cognitive strategies: the ability to distribute and direct the cognitive activity itself. Fourth, motoric skills: the ability to carry out a series of physical movements dealing with the coordinating, that manifests the automatic physical movement. Fifth, affective skill is the ability to accept or reject objects based on judgment towards the object.

The purpose of this study was an effort to improve student learning achievement in IPS subjects in class VII A of SMP Negeri 4 Pontianak using the problem-based learning method.

Method

The method used in this study was the Classroom Action Research (CAR). According to Suharsimi Arikunto (2012: 3) "Classroom Action Research is an observation of learning activities in the form of an action that is deliberately conducted and occurs in a class together." The action was given or instructed by the teacher and carried out by students. While, research approach in this research meant the used of problem based learning method to improve students' learning achievement.

This Research was conducted in class VII A of SMP Negeri 4 Pontianak on IPS subjects in odd semester academic year 2017/2018. The implementation of this study consisted of two cycles. Cycle 1 consisted of 1 meeting which was held on October 5, 2017 and cycle II consisting of 1 meeting held on November 6, 2017.

Data collection techniques used in this research were by conducting direct observations to the teacher and students by using teacher and student activities observation sheets and measuring student learning achievement by using a written test at the end of each cycle.

Data analysis activities include 1) data collected through observation sheets were analyzed using percentage techniques to see trends that occur in learning 2) data of the results of assessment from cycles I and II, then the improvement of learning achievement can be seen into the graphs. Individually, students are successfully studied if they reach 65 (minimum standards score). While, problem based learning is successful if classical completeness has reached 75%. The steps of these Research in cycle I include:

- a. Planning Phase
 - 1) Preparing learning devices that are in accordance with the learning model used
 - 2) Determining the subject matter
 - 3) Arranging Students' workbook
 - 4) Preparing learning resources
 - 5) Developing evaluation format
 - 6) Preparing teacher observation sheets in learning activities
 - 7) Arranging observation sheets for student activities
- b. Acting phase
 - 1) Carrying out the planned scenario
 - 2) Doing of what have been formulated in the RPP
- c. Observing

Observation activities were carried out collaboratively by involving observers to observe and assess the learning based on IPKG 1 and IPKG 2.
- d. Reflecting
 - 1) Evaluating the actions: evaluating, quality, time of all actions
 - 2) Conducting a meeting to discuss the results of the evaluation of the scenario
 - 3) Improving the implementation of actions according to the evaluation results.
 - 4) Evaluating the 1st cycle
- e. Making Advanced Plans

The teacher prepares the next action plan by making improvements and refinements in planning the actions taken previously, with the aim of improving the next action.

Cycle II

 - a. Planning Phase
 - 1) Analyzing the first test scores
 - 2) Preparing the lesson plan
 - 3) Arranging students' workbook
 - 4) Arranging test items for the second cycle
 - 5) Arranging the observation sheets in learning activities
 - b. Acting Phase

The activities implemented in this phase were as follows:

 - 1) Carrying out learning activities in the introduction
 - 2) Carrying out core learning activities
 - 3) Assigning the students to work in group
 - 4) Providing worksheets to be discussed in each group
 - 5) guiding the students in the groupwork
 - 6) conducting learning evaluation
 - 7) Carrying out the second cycle of evaluation test
 - c. Observing Phase

Observations were made on the development of students for the actions taken by the teacher. The Observer evaluates what teachers and students do based on IPKG 1 and IPKG 2.
 - d. Reflecting stage

The researcher and observer discussed the problems found by the observer based on the assessment in the second cycle. Based on the data collected, then an evaluation is carried out to complete the next action.

Result and Discussion

Finding out to what extent the improvement of the student achievement, the researcher presented a comparative data between cycle I and cycle II.

1. the improvement of student activity in the learning process

The improvement of students' activity in learning process can be known by comparing the results of student activities in the first cycle and second cycle. Consider the following graph 1:

Based on the graph 1, the improvement of students learning activities can be seen in several ways, for example, in reading the material activity, it improved from 28 students in the first cycle to 30 students in the second cycle. In the solving problem discussion activities, there were 27 students took part in the first cycle and 29 students in the second cycle. In the first cycle, there were 25 students doing the activity of seeking the answer increased to be 29 students. The students' enthusiast in doing presentation activity increased from 17 students to be 24 students in cycle II. The encouraged expressing opinions activity was also increased from 5 students in the first cycle to be 8 students in the second cycle. From the graph, it showed the average score of the first cycle was 60 for overall indicators in which categorized as moderate and 71 in the second cycle that was categorized as a good. The improvement of the mean score answered that the problem based learning method could increase students' learning activities.

2. Improving Student Learning Achievement

Student learning achievement are regarded as increased if the number of students who passed the minimum score or the mean score of the students were increased from the previous learning achievement. The following is a comparison of student learning achievement:

Table 1
Students learning achievement

No	Indicator	Pre action	cycle I	cycle II
1.	Total score	1850	2300	2390
2	Mean score	54,41	67,60	70,29
3	Maximum score	80	100	90
4	Minimum score	30	30	30
5	Passed	7	19	26
6	Not passed	27	15	8
7	Passed percentages	20%	56%	76,5%

From table 1, it could be described that: the sum of the pre-action score was 1850 and increased to 2300 in the first cycle, and increased to 2390 in the second cycle. The mean score at pre-action was 54.41, after the action in the first cycle the mean score was 67.60. In the second cycle, the learning was improved with the mean score became 70.29. The number of students who passed at the pre-action were only 7 students and after the first cycle, the number of students passed were 19 students. In the second cycle, the number of students who passed increased to 26 students. The percentage of the students' completion during the pre-action was 20%, increased to 56% in the first cycle, and increased to 76.5% in the second cycle.

Based on the results of classroom action research that had been carried out on the pre-action, the first cycle, and the second cycle proved that the Problem Based Learning method was successfully increased students' learning activities and achievement. Due to the use of problem based learning method, the students were more active participate in learning, encouraged to express their opinions in groups and increased their understanding in terms of subject matter.

a. Student learning activities

The improvement of student learning activities can be seen in the following table:

Table 2
Students learning activity

Indicator	cycle I		cycle II	
	total	%	total	%
Reading the material	28	82	30	88
Solving Problem discussion	27	79	29	85
Seeking the answer	25	74	29	85
enthusiast in doing presentation	17	50	24	71
Expressing the opinion (conclusion)	5	15	8	24
Total	102	60	120	71

Based on the table above, it can be seen that in the first cycle, reading the material activities were committed by 28 students and increased to 30 students in the second cycle. The solving problems discussion activities in the first cycle which was done by 27 students increased to be 29 students in cycle II. In terms of seeking the answers, in the first cycle there were 25 students increased to be 29 students in the second cycle. In the enthusiast in doing presentation activity of cycle I was 17 students increased to 24 students in the second cycle, while the ability to express the opinion of the first cycle was 5 students increased to 8 students in cycle II. Overall, there was an increase in student activities from cycle I as much as 60% to 71% in cycle II.

b. Improving Student Learning achievement

Based on the results of the study at the pre-action, first cycle, and the second cycle, the use of the problem based learning method could improve student learning achievement. It can be seen in the following table:

Table 3
 Students Mean Score

No	Description	Mean score	Total score	number of students
1.	Pre action	54,41	1850	34
2.	Cycle I	67,6	2300	34
3.	Cycle II	70,29	2390	34

In table 3, it showed that the students' mean score for IPS subjects increased as follows: The mean score at pre-action is only 54.41, increased to 67.6 in cycle I and increased to 70.29 in cycle II. From the table it can be concluded that before the learning action using the problem based learning method the mean score of IPS subjects was still low below the KKM mean score (65), but after the cycle I and cycle II, the students' mean score increased over the KKM mean score (65). The improvement of student learning achievement can be seen in table 4.

Table 4
 Students Learning Achievement for each cycle

Description	Learning achievement				number of students
	Passed	(%)	Not passed	(%)	
Pre action	7	20	27	80	34
Cycle I	19	56	15	44	34
Cycle II	26	76,5	8	23,5	34

In the table, the students' pre-action learning achievement showed there were 7 students (20%) passed, while 31 people (80%) did not pass. In the first cycle 19 students (56%) passed, while students who did not passed decreased to 15 people (44%). In the second cycle the number of students who passed reached 26 people (76.5%) and students who did not passed were 8 (23.5%). Based on the table, the results of the pre-action, the first cycle, and the second cycle can be concluded that by using problem based learning method can improve student learning achievement in class VII A SMP N 4 Pontianak.

Conclusion

Based on the implementation, results and discussion of the research from the first cycle and second cycle, it can be concluded that problem-based learning method can improve student learning achievement. The learning achievement is influenced by students' enthusiast for learning. This is because the problem based learning method provides opportunities for students to express ideas, ideas and opinions and exchange ideas with other friends in solving problems in learning material

Suggestion

The use of problem based learning methods can improve student learning achievement, so the suggestions to be raised are as follows:

1. The IPS material is very complex, so it requires fun and meaningful learning so students are easy to understand.
2. The teacher should always do self reflection at the end of the learning so that the mistakes in the learning process can be resolved properly.
3. This activity is very useful especially for teachers and students, so it is expected that this activity can be done continuously in IPS and other lessons

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