

Improving Result of Learning History through Application of Problem Based Learning Model (An Empirical Study in Class X IPS 1 Public Senior High School 1 Tirawuta)

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Abstract: *This study aims to determine the history learning outcome through the application of learning models of problem based learning. The method used is classroom action research, and held for two cycles, with each cycle consist of planning, action, observation and evaluation and reflection. The first cycle consists of three meetings, as well as with the second cycle. Aspects studied were teaching activities of teachers, students' learning activities which obtained through observation sheets, and student learning outcomes obtained through the learning test results. Results of statistical analysis showed that the learning outcomes of Indonesian history in class X Public Senior High School IPS 1 Tirawuta through the application of problem based learning model has increased in each cycle. In the first cycle the percentage of student learning outcomes reached 71.88% with an average value of 80.22 and the second cycle the percentage of student learning outcomes reached 90.63% with an average value of 83.10. From these results, can be concluding that the implementation of problem based learning model can improve learning outcomes of Indonesian history.*

Keywords: Problem Based Learning, Learning Outcomes

1. Introduction

The Interview result with one of Indonesian history teacher of Public Senior High School 1 Tirawuta and also observation of teacher formative test result, obtained information that there are problems that occur during the process of learning implementation. Indonesian history teacher complaint is the students' attitudes are less enthusiastic to attend the learning process and based on formative test data shows that of the 32 students in the class X IPS 1, which reached completeness criteria are 59.38% or about 19 students, minimum completeness criteria (KKM) in Public Senior High School 1 Tirawuta for Indonesian history subjects is 75.

Learning strategies using problem based learning teaching model is expected to provide solutions to the above problems and is able to support the learning process more attractive and to improve the student's history learning outcomes. Silberman Mel (2002) stated that the active learning environment is a place where the needs, expectations and concerns of learners affect the teacher's lesson plan. The purpose of this study is: to describe the increased activity of teacher's teaching, student learning activities, and improved learning outcomes Indonesian history in class X IPS 1 Public Senior High School 1 Tirawuta through the application of Problem Based Learning teaching models. Problem Based Learning is one of the innovations in learning, which widely used in universities, and is also being developed in schools. Problem Based Learning is using the issue as a context of learning to think critically and acquire the essential concepts of the lesson Nurhadi (2004). Human brains follow the principle of interdependence of to make connections.

According to Greenfield (1997) that the principle of self-organization supports the brain's ability to learn, remember, worry, proactive, regulate behaviour, so that resulting in a different self.

Johnson, Elaine (2002) that mankind has a tendency to look for linkages between different things, resulting in a context for learning and life, because human beings creature that can manage and regulate themselves, which endlessly searching for information and using it to create its own significance. According Trianto (2007) problem based learning is a learning model in which students work on tasks assigned by the teacher with the intention to construct their own knowledge, develop inquiry and skills to think critically, develop independence and confidence. Thus, the learning based on problems is an effective approach in helping students to process the information that already exists in his mind and construct their own knowledge. Kemp, Jerrold et al. (1994) that there are four components in designing learning which should be referred, namely learners, learning objectives, teaching methods, and assessment of learning process. Ibrahim (2000) stated that the characteristics of problem-based learning are to orient students on the authentic issue. Ward and Lee (2002) stated that learning is based on the problem (problem based learning) is one of the innovative learning models that can provide conditions active learning in students. This learning model involves students to solve a problem through the stages of the scientific method so that students can learn the knowledge which related with the problem and also have the skills to solve problems. Based on the statement above, the purpose of learning is to help students to gain a variety of experiences, so that the behavior of pupils better either in terms of quantity or quality. The

behavior is meant include knowledge, skills, and values or norms that serve as controlling the attitude and behavior of students.

2. Research Method

The method used in this study is action research. Elfany Burhan (2013) explains that, Class Action Research, which is a study arranged in a systematic reflective and structured by teachers to various action taken for improvement of learning conditions. Research subjects were students of class X IPS 1 Public Senior High School Tirawuta the school year 2014/2015. Selection of class X IPS 1 as research subjects, because their learning outcomes of Indonesia history are lower than other classes. The student who becomes the object of study of 32 pupils, consist of 13 boys and 19 girls.

Data of Teacher activity in applying the problem based learning models obtained through observation sheets, which refer Trianto (2011), with the formula = $\frac{A}{B} \times 100 \% \dots (1)$,

Similarly, the student activity data also using the observation sheet, by using formula = $\frac{A}{B} \times 100 \% \dots (2)$,

Mastery learning outcomes obtained by giving the test to students, with the formula = $\frac{T}{T1} \times 100 \% \dots (3)$,

- Where: A = score acquisition of teacher activity;
 B = maximum score;
 KB = mastery learning;
 T = sum of scores obtained by students;
 T1 = number of total score.

Calculate the average of learning outcomes refer to Umar, Husein (2009) by using formula:

$$\bar{X} = \frac{\sum X_1}{N} \dots (4)$$

Where: \bar{X} = the average (mean)

$\sum X_1$ = the sum of all scores

N = number of studied subjects

Indicators of the performance of teachers is considered complete if it has reached at least 90% of lesson planning is done. Student activity indicator is considered completed if it has reached at least 90% based planning has been done, and the result of learning is considered to be complete when 85% or 27 students have achieved minimum completeness criteria. The data analysis technique used is quantitative descriptive.

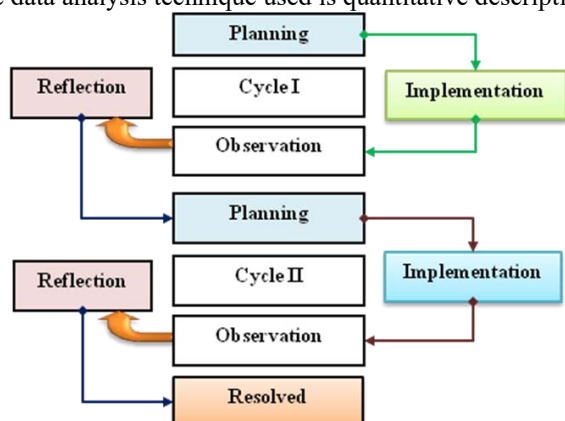


Figure 1: Research Model adopted Arikunto et al. (2009)

While the steps on the cycle in this research are:

- 1. Planning**, this stage is the stage with the activity to plan research activities. The research plan will be conducted with the teachers. In terms of the preparation of an action plan that will be done during the learning process in progress. Such as: create a learning device, preparing teaching materials of Indonesia history lesson, and the research instrument and evaluation tools.
- 2. Implementation of measures**, implementation of the actions carried out in accordance with the learning scenario that has been arranged with the teachers. This action aims to improve the conditions of learning, improving quality or finding problems solutions. Implementation of the learning is done by using the Problem Based Learning teaching model to increase the teacher teaching activity, learning activities, and student learning outcomes in Indonesian history subjects.
- 3. Observation and evaluation**, to monitor the process and impact of the corrective actions results has taken at each cycle. The observations and evaluation done to monitor the process and impact corrective action result at each cycle I. Observations result on the first cycle will be used to organize remedial measures in the next cycle if the expected results have not been achieved. In observations made consisting of a sheet of observation/observation and tests at the end of the lesson for each cycle.
- 4. Reflection**, at this stage the results obtained after doing the action, observation and evaluation, discussed and seen the weaknesses that exist in the each cycle and will be fixed in the next course of action.

3. Results and Discussion

Implementation of learning using learning model of Problem Based Learning cycle I.

1. Planning activities that teachers do in order to support the learning process are: (1) Creating a learning scenarios in the form of instructional design as outlined in the lesson plan; (2) create tools including Student Worksheet (LKS) which will be used in learning activities; (3) make the observation instrument to observe the activities of teachers and students during the learning process; and (4) Designing an evaluation tool in the form of a written assessment to determine the level of material mastery.
2. Action Implementation, implementation of history teaching in the first cycle is described as follows. Under an agreement between the researcher and observer, the first meeting was held on Thursday 04th September 2014 at 09:30 to 12:05 pm. The material taught in the first cycle is the origin of the spread of the ancestors of Indonesia: Proto Melayu, Deutro Melayu, melanesoid, Negrito and Weddid. Furthermore, the second meeting held on September 11, 2014, to continue the discussion of the origin of the spread of the ancestors of Indonesia: Proto Melayu, Deutro Melayu, melanesoid, Negrito and Weddid.

Meanwhile the steps of learning in the first cycle is as follows: (1) Managing the Classroom; (2) Express the learning objectives; (3) Perform the apperception; (4) Motivate students so that students realize the importance of studying the Indonesia history; (5) Provide a brief

explanation of the origin of the spread of the ancestors; (6) Teachers guide students to make small groups consists of 6-7 people; (7) Introduction discussion topics; (8) Teachers submit problems to each group; (9) Teachers guide the investigation of each group; (10) Teachers guide dialogue between students in the group; (11) Teachers guide students develop and present work; (12) Teachers evaluate the problem solving process; (13) Reflecting and Guiding students to deduce the material that has been discussed; (14) Provide homework and information at the next meeting to be held evaluation of the material that has been discussed.

At the beginning of discussion, students were so rowdy and less coordinated, and this is because students rarely involved in group discussions. There are a few students who walk around to the other groups and disrupt the discussion. When asked to be active in the group of students still looks lazy and reluctant to try. After being approached by new teachers students begin working but still with the guidance of teachers. Students get involved after being approached by teachers but still with the teacher's guidance. When students are completing tasks the teacher asks a student to tell a little bit about the group discussion results, but because of learning time is less, the teacher simply asked the students read a bit of their group discussion results. Then at the end of the classroom, teacher second meeting reminded the students that on Saturday (13 September 2014) will be held with the evaluation of the substance that they have discussed.

3. Observe and evaluation

a. Observations of teaching activities, results of teaching activities of teachers in the first cycle are from 14 observed aspects only 12 were applied or 85.71% of the 90% specified indicator. The observation results of teachers teaching activities in the first cycle shown in Table 1.

Table 1: Observation Sheet of Teaching Activity of Teachers in the first cycle

Stage	Aspects Observed	Applied	
		Yes	Not
Introduction	1. Managing Classroom	√	
	2. Delivering the learning objectives		√
	3. Doing apperception	√	
	4. Motivate students so that students realize the importance of studying Indonesia history.		√
Core Stage	1. Explain briefly about the origins of the spread of the ancestors of Indonesia	√	
	2. Teachers guide students to make small groups consist of 6-7 people	√	
	3. Delivering the topics of discussion: Group 1. discusses the Proto Melayu race Group 2. discusses the Deutro Melayu race Group 3. discusses the melanesoid race Group 4. discusses the race of Negrito and Weddid	√	
	4. Teachers perform problem to each group	√	
	5. Teachers guide students in the inquiry / gathering information	√	
	6. Teachers guide the dialogue between the students in the group	√	

	7. Teachers guide students to develop and present work	√	
	8. Teachers evaluate the problem-solving process	√	
Final stage	1. Guiding students to reflect and conclude the subject matter	√	
	2. Giving Homework	√	
Amount		12	2
Percentage (%)		85.71	4.29

b. Observations of Student Activities, activity of students in the first cycle reveal that 78.57% from 14 aspects observed aspects only 11 aspects reach 90% of pre-defined performance indicators. Results of observation of first cycle student learning activities are described in Table 2.

Table 2: Observation Sheet of Students Activity in Cycle I

Stage	Aspects Observed	Applied	
		Yes	Not
Introduction	1. Students prepare to perform the learning activities	√	
	2. Students noted the purpose of learning		√
	3. Students respond apperception from teachers	√	
	4. Students are motivated to attend the learning process		√
Core Stage	1. Students listened to and write the subjective described by teachers	√	
	2. Students quietly forming discussion groups respectively	√	
	3. Students noted the discussion topics that will be discussed	√	
	4. Students noted the given issue	√	
	5. Students are enthusiastic in gathering information in the source and medium of learning to get an explanation of the topics that have been given		√
	6. Students dialogue with teachers and friends group to make inferences from their respective problems	√	
	7. Students prepare their result in a report form and present the result of each group in front of the class	√	
	8. Students make improvements to the results of each group's discussion	√	
Final stage	1. Students ask questions if there are things they do not understand and make conclusions about the material that has been discussed	√	
	2. Students wrote the homework	√	
Amount		11	3
Percentage (%)		78.57	21.43

Furthermore, the first cycle of evaluation conducted at September 13th, 2014 at 10:40 to 12:10 pm (90 minutes). An instrument to measure learning outcomes is set forth in the essay test instrument. According to Table 3, the amount of the acquisition of student learning outcomes in the first cycle is still relatively low. The average of student learning outcomes reached 76.09 with a highest score of 90 and the lowest score 50. Usman Uzer (2010) that the learning outcome is nothing but the final result of the learning process as the output of all the efforts that have been done throughout the process.

In Table 3 shows that students who scored with a score of 90-100 amounted to 3 people with a percentage of 9.38%, which get a score of 80-89 amount of 11 people with a percentage of 34.38%, which get a score of 75-79 amounted to 9 people with percentage of 28.12%, while the students who earn a score of <75 amounted to 9 with a percentage of 28.12%. In Table 3 shows that students with an interval score of 90-100 amounted to 3 students with a percentage of 9.38%, which get a total score 80-89, 11 students with a percentage of 34.38%, which get a score of 75-79 amounted to 9 people with percentage of 28.12%, while the students who earn a score of <75 amounted to 9 with percentage of 28.12%.

Table 3: The amount of the acquisition of student learning outcomes in cycle I

No	Interval	Number of Student	Percentage
1.	90-100	3	9.38
2.	80-89	11	34.38
3.	75-79	9	28.12
4.	<75	9	28.12
Total		32	100

Table 4: Completeness Analysis of Student Results at the First cycle

Completeness	Number of students	Percentage
Complete	23	71.88
Not complete	9	28.12
Total	32	100

Increased obtained is certainly not appropriate yet with what is expected in these case the performance indicators that have been set at 85% has not been reached.

4. Reflections, at this stage the researchers collaborate with the observer assess and discuss weaknesses in the implementation of the first cycle actions, then be rectified in the second cycle. Alternative solutions to problems that appear in the first cycle and fixed in the second cycle, among other things: (1) Provide a bonus for students who dared to express their opinions so that students are willing and able to answer questions, give comments, express opinions to solve problems and present the results of their work; (2) More active to control the students discussion by be around and checking students with expectation that the students be more serious in the discussion; and 3) be able to more maximize time, so that the learning process can take place properly without having to pass some learning steps.

Learning implementation using Problem Based Learning model Cycle II

1. Planning, based on the observation and evaluation on the first cycle actions, the researchers are planning the second cycle. Weaknesses and defective that occur in the first cycle will be fixed in the second cycle, so expect the implementation of Problem Based Learning model of learning can be better. Furthermore, at this stage the researchers do things as follows: (1) Creating a learning scenarios in the form of instructional design as outlined in the lesson plan (RPP); (2) create tools including Student Worksheet (LKS) which will be used in learning activities; (3) make the observation instrument to observe

the activities of teachers and students during the learning process; (4) Designing an evaluation tool in the form of a written assessment to determine the level of mastery of Problem Based Learning for observational record during the second cycle lasts.

2. Implementation of measures, a goal to be achieved in the second cycle is to improve the quality of the learning process in the cycle I. In this case an increase of teacher teaching activity and students' learning activities and learning outcomes in Indonesian history subjects according to the indicators set.

Learning on the second cycle starts on Thursday 18th September 2014 at the first meeting that discusses the life style of pre-literacy society: patterns of occupancy and of hunting, gathering till farming, the belief system of pre-literacy society and the second meeting starting on September 25th, 2014. Meanwhile, the steps of learning in the second cycle is as follows: (1) Managing the Classroom; (2) Explain the learning objectives; (3) Perform apperception; (4) Motivate the students so that they realize the importance of studying the history of Indonesia; (5) Provide a brief explanation of the pattern of pre-script community life; (6) Teachers guide students to make a small groups consist of 6-7 people; (7) Introduce discussion topics; (8) Teachers pose problems to each group; (9) Teachers guide the investigation of each group; (10) Teachers guide dialogue between students in the group; (11) Teachers guide students to develop and presenting work result; (12) Teachers evaluate the problem solving process; (13) Reflecting and Guiding students to deduce the material that has been discussed; (14) Provide homework, and provide information at the next meeting to be held evaluation of the material that has been discussed.

3. Observation and evaluation, implementation of learning observation at the second cycle and the first cycle is generally very similar, but in the second cycle can be viewed for an increase when compared with the previous observation results. As for the observation result of teaching activities and the students' learning activities as follows:

a. Observation of teaching activities, based on observations on observation sheet of teaching activities of teachers in the second cycle progressed significantly, i.e. from 14 observed aspects, all of it can be carried out or has reached 100%. This reveals that the implementation of teaching model of Problem Based Learning has been implemented well by the teacher, and can be seen in Table 5.

Student Activity at the second cycle already showed a significant improvement, from 14 aspects observed, 13 aspects are already accomplished or has reached 92.86%. Results of this study suggest that good learning designed which by the teachers, can help the students understanding based on the experience on their own. Weaknesses that occur in the first cycle already fixed on the second cycle. In the second cycle, enthusiasm and motivation of the students in study and answer the questions have been increased. This

suggests that inside the students already embedded motivation and enthusiasm for learning.

Table 5: Observation Sheet of Teaching Activity of Teachers in the second cycle

Stage	Aspects Observed	Applied	
		Yes	Not
Introd uction	1. Managing Classroom	√	
	2. Delivering the learning objectives	√	
	3. Doing unperceptive	√	
	4. Motivate students so that students realize the importance of studying Indonesia history.	√	
Core Stage	1. Explain briefly about the origins of the spread of the ancestors of Indonesia	√	
	2. Teachers guide students to make small groups consist of 6-7 people	√	
	3. Delivering the topics of discussion	√	
	a. Group 1 discusses the Proto Melayu race	√	
	b. Group 2 discusses the Deutro Melayu race		
	c. Group 3 discusses the melanesoid race		
	d. Group 4 discusses the race of Negrito and Weddid		
	4. Teachers perform problem to each group		
5. Teachers guide students in the inquiry / gathering information	√		
6. Teachers guide the dialogue between the students in the group	√		
7. Teachers guide students to develop and present work	√		
8. Teachers evaluate the problem-solving process	√		
Final stage	1. Guiding students to reflect and conclude the subject matter	√	
	2. Giving Homework	√	
Amount		12	14
Percentage (%)		85.71	100

In line with the opinion of Arrends Richard (2008) that a good learning strategy was able to provide stimulus in a problems form that will increase motivation and provide guidance to students to develop and acquire knowledge. Arrends Richard (2008) state that Problem Based Learning is able to target their intervention to help students become more independent and reflective in practice which is more professional. The results of this study can give a meaning that learning through the implementation of Problem Based Learning will train students to be more independent in the tasks given by the teacher Chaves et al. (2006).

3. Evaluation, the test results of the second cycle study were conducted on 27 September 2014 at 10:40 to 12:10 pm, where teachers give 5 items related to the material that has been learned. Based on the analysis of data in the second cycle, the acquisition of learning outcomes reached an average of 81.56 with a highest score of 100 and the lowest value of 60. This can be seen in Table 7.

b. Observations of Student Activities

Table 6: Observation Sheet of Students Activity in Cycle II

Stage	Aspects Observed	Applied	
		Yes	Not
Introd uction	1. Students prepare to perform the learning activities	√	
	2. Students noted the purpose of learning	√	
	3. Students respond apperception from teachers	√	
	4. Students are motivated to attend the learning process		√
Core Stage	1. Students listened to and write the subjective described by teachers	√	
	2. Students quietly forming discussion groups respectively	√	
	3. Students noted the discussion topics that will be discussed	√	
	4. Students noted the given issue	√	
	5. Students are enthusiastic in gathering information in the source and medium of learning to get an explanation of the topics that have been given		√
	6. Students dialogue with teachers and friends group to make inferences from their respective problems	√	
	7. Students prepare their result in a report form and present the result of each group in front of the class	√	
	8. Students make improvements to the results of each group's discussion	√	
Final stage	2. Students ask questions if there are things they do not understand and make conclusions about the material that has been discussed	√	
	3. Students wrote the homework	√	
Amount		13	1
Percentage (%)		92.86	7.14

In Table 7 shows that the number of students who reach a score of 90-100 amounted to 6 people with a percentage of 18.75%, which get a score of 80-89 amounted to 16 people with a percentage of 50%, which get a score of 75-79 amounted to 7 people with a percentage 21.88%, while the students who earn a score of <75 amounted to 3 people with a percentage of 9.37%. This is in line with the opinion of Park et al. (2007). That the implementation of Problem Based Learning aims to make learning more student-centered. The results of this study indicate that the application of Problem Based Learning could encourage students to be more active in learning so that the implementation of learning more interesting, fun and impactful to better learning outcomes.

Table 7: Total of Acquisition of Student Results in Cycle II

No	Interval	Number of Student	Percentage
1.	90-100	6	18.75
2.	80-89	16	50.00
3.	75-79	7	21.88
4.	<75	3	9.37
Total		32	100

Table 8: Analysis of Mastery Student Results Cycle II

Completeness	Number of students	Percentage
Complete	29	90.63
Not complete	3	9.37
Total	32	100

The number of students who have achieved minimum completeness criteria (KKM) or reaching a score ≥ 75 on the second cycle of evaluation tests increased as follows: 90.63%, or 29 people. It is accompanied by a decrease in student learning incompleteness of 9 in the first cycle decreased to 3 on the second cycle. The changes are considered positive because it has been written in accordance with the hypothesis and performance indicators.

Through the better learning process viewed in terms of teaching activities of teachers and students' learning activities then the student learning outcomes has experienced an increase, especially during the learning process using the Problem Based Learning model. Judging from the average scores obtained by students in the first cycle and the second cycle, changes in which the test score results to learn the history of Indonesian students in the first cycle led to the fact that of the 32 students there are 9 students who get scored below 75 (not completed) and 23 students scored above 75 (complete) with an average score of 76, 09. After the second cycle is done, the result becomes 3 students scored below 75 (not completed) and 29 students scored above 75 (complete) with an average score of 81.56%.

Table 9: Analysis of Completeness of student learning results of cycle I and cycle II

Completeness	Cycle I		Cycle II	
	Frequency	Percent	Frequency	Percent
Complete	23	71.88	29	90.63
Not complete	9	28.12	3	9.37
Total	32	100	32	100

4. Reflection, based on the observation and evaluation of the implementation of learning with Problem Based Learning model of the second cycle, the study was discontinued in this cycle. All aspects are observed in the learning process with Problem Based Learning model showed good indicators. Aspects that are weak in the first cycle have been minimized in the second cycle. From the observation of the second cycle is known that the activity of the teacher and student activity in the learning process of learning the history of Indonesian Problem Based Learning model has been accomplished in accordance with the learning scenario.

4. Conclusion

Application of problem based learning models in learning the history of Indonesia can enhance teacher's teaching activity with the percentage 85.71% in the first cycle, then reaches 100% of 90% specified indicator in the second cycle. Similarly, students' learning activities, which in the first cycle only reaches 78.57%, and on the second cycle increased significantly set on 92.86% of 90% of performance indicators. The test results show that the first cycle of 32 students in the class X IPS 1, approximately 71.88% were

reached completeness learning or 23 students have reached a value of ≥ 75 . And the second cycle is already 90.63% reaching mastery learning or 29 students have reached a value of ≥ 75 . It certainly has been reached on a set of performance indicators as much as 85% of the students have completed the study by obtaining, which determined at 75.

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