

# THE EFFECT OF THE USE OF PROBLEM BASED LEARNING MODEL TO THE CRITICAL THINKING SKILL OF STUDENT IN SOCIAL STUDIES LEARNING

(Quasi Experimental Research in VII grade of 1 Lembang Junior High School)

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**Abstract-**this study aims to know, analyze and evaluate the differences of students' critical thinking skills by using problem based learning model and conventional models. This study uses a quasi-experimental method with quantitative approach using Nonequivalent (Pretest-Posttest) Control-Group Design. The data collection technique used in this study is using the test. The data analysis technique is done by independent t-test sample. Moreover, this research shows the significant differences if seen from the average of percentage of experiment class; pretest is less while posttest is so gratified. The result of pretest control class is less and posttest is enough. The results of this research give the recommendation for teachers and next researchers to apply problem based learning model to enhance critical thinking ability of students. In addition, problem based learning model is also expected to encourage students to be able to solve problems encountered in everyday life, especially in social studies.

**Keywords:** Problem based learning, conventional learning model and critical thinking.

## I. INTRODUCTION

Based on the pre-observation research at 1 Lembang Junior High School, and implementation of the learning program in class VII-B, researcher was directly used as the learning facilitator for the student and that is when the researcher stated that it was pre-research. Researchers found students who are still familiar and focused with the student handbook provided by teachers and schools. When the researcher conducts learning activity, the researcher found the student who actively asks and expresses his opinion but what is discussed is still focused on the existing material in the book.

Based on the observations at 1 Lembang Junior High School, the teaching-learning process is still centered on the teacher only, where the students only receive as much material from the teacher, so that students are not actively involved in the learning process so that students become passive during the learning process. It makes the students only understand the material presented only to memorize. Students are not accustomed to critical thinking or to familiarize themselves with analyzing a problem related to social interaction that will later be associated with existing theory.

From these problems researchers do a way which want to make students more open their minds related to the existing material but not too focused with the handbook of students. When the researchers conducted a study with the model of problem-based learning, the researchers saw a

different style of students thinking, they increasingly want to know and become more familiar with the material as they relate material that students learn the problems that exist around the students. In the previous researchers conduct the class with problem based learning models, researchers used discussion models and lecture but no students who answered a question with an explanation, consider the results of observations by relating material that they know the reality and determining a course of action.

Meanwhile, according to Somantri (2004, p.444) Social studies education in school is a simplification of social sciences, psychology, philosophy, ideology of state and religion that organized and presented scientifically and psychologically for the purpose of investigation.

Problem Based Learning (PBL) is one model that emphasizes on the activity of the active learners. In the learning process with this PBL model, the teacher acts as a facilitator, on the contrary the students as an active learner. In the learning process with this model students as learners who actively seek out sources that then account for the resources they have obtained it in the form of discussion and argument critically. Using this PBL model, the teacher's droning and focused learning process shifts to the active learning of students who will better train students to think critically.

Ennis (2005, p.23) states that critical thinking has twelve components: a) Formulate the problem; b) Analyze arguments; c) Ask and answer question; c) Assess the credibility of information sources; d) Make observations and assess observation reports; e) Making deductions and assessing deductions; f) Making induction and assessing induction; g) Evaluate; h) Defines and assesses definitions; i) Identify assumptions; j) Decide and execute; k) Interact with others.

Bern and Erickson (in Komalasari, 2015, p. 58) confirms that the problem-based learning (problem based learning) is a learning strategy that involves students in solving problems by integrating a variety of concepts and skills from different disciplines. This strategy involves collecting and gathering information, and presenting the findings.

According to Puskur (2006, p.5) stated that "Social Sciences is one of the lessons given from elementary school to high school. Social Sciences examines a set of events, facts, concepts and generalizations related to social issues. In junior high school, Social Science subjects contain geography,

history, and economy. Through Social Science subjects, students are directed towards becoming a responsible and democratic Indonesian citizen and a peace-loving citizen. Based on the above description, the researcher is interested to conduct a study of learning with the title "Influence of Problem Based Learning Learning Model (PBL) on Critical Thinking Ability of Student in Social Studies Learning (Quasi Experimental Research in VII Grade at 1 Lembang Junior High School)".

With the focus of the problem: 1) Is there any difference in the critical thinking ability of learners between pretest and posttest while doing treatment using Problem Based Learning model in experiment class ?; 2) How much difference in the critical thinking ability of learners between pretest and posttest using conventional learning method in control class ?; 3) How big is the Significant difference between pretest and posttest when doing treatment using Problem Based Learning model with students' critical thinking ability between pretest and posttest using conventional learning method in control class ?

## II. METHODS

The method used in this research is experimental method. The experimental study was divided into two, true experimental research and apparent (quasi-experimental research). In this study, the method used is the method of quasi-experimental research.

The explanation of a quasi-experimental research by Muhadi (2011, p. 21), "quasi-experimental research is research conducted experiments on the experimental class, and each class experimental treatments subject to certain conditions that can be controlled".

In this study subjects were divided into two groups, namely experimental class and control class. Experimental class is a group of students treated (treatment) by using model problem based learning (PBL). When the learning process takes place. While the control class is a group of students who did not use a learning model of problem-based learning.

The research design used in this study is Nonequivalent (pretest-posttest) Control-Group Design. This design is nearly equal to pretest design-posttest control group (one of the true experiment design in research). Only in this design the experimental group or the control group were not randomly selected.

The research to be conducted is located at 1 Lembang Junior High School, which is located at Lembang Street no. 357, Jayagiri, Lembang, West Bandung Regency, West Java, 40391. The reason for choosing the location of this research, because previously researchers made observations during the Field Experience Program is going on. The observation is focused on the learning process IPS in VII grade at 1 Lembang Junior High School. The problems that appear from this observation is the students seem to have low ability to think critically. Still seen some students who have difficulty in answering questions relating to the subject matter, and also students confused and difficulty in providing questions or answers.

Data collection activities in a study, is an important step to determine the characteristics of the population which is the elements in the object of research used for testing the hypothesis.

As according to Sugiyono (2010, pp. 80) states, "Population is defined as a generalization region consisting of objects / subjects that have certain qualities and characteristics set by the researchers to be studied and then drawn conclusions. While the population in this study are students of 1 Lembang Junior High School with the 11 classes.

The sample is part of the number and characteristics possessed by that population (Sugiyono, 2012, pp. 81). Determination of samples conducted in this study by taking as many as two classes of class VII B as experimental class and VII C as a class of control. The selection of classes is done randomly because based on information obtained from social studies teachers that the class has characteristics that are not differently.

This research will be conducted in VII grade at 1 Lembang Junior High School West Bandung Regency. In accordance with the research design that uses quasi experiments then it takes two classes. The first class is a class of experiments that would be given special treatment by the application of Problem Based Learning method. While the second class acts as a control class that is not given special treatment means using conventional methods. The results of pretest conducted to the entire population is known that the average grade values are equal to class VII B with the number of students as much as 38 people and class VII C of 38 people. So these two classes will be sampled in this study. The next step in determining the sample is the selection of the control class and the experimental class. The determination of this stage is done by drawing. The draw result is the class VII B will be the experimental class and VII C will be the control class.

The instrument used in this study is a test. According to Arifin (2012, pp. 226) "the test is a measurement technique in which there are various questions, statements, or series of tasks to be performed or answered by the respondent". The test that the researchers used in this study is a multiple choice test. These instruments are used to see the effect of using the model of Problem Based Learning to critical thinking skills of students.

## III. RESULTS AND DISCUSSION

This study was conducted to test on the influence of Problem Based Learning model of learning in social studies to the critical thinking ability of students in VII grade at 1 Lembang Junior High School. The result showed that the data value of the pretest and posttest had normal distribution with a confidence level of 95%, which is visible from the probability Asymp-syg (2-tailed) with a value more than  $\alpha = 0,05$ . Homogeneity test results data shows a homogeneous, because based on calculations by SPSS look at pretest experimental class and control class with a value of 0.446 is greater than the value of the significance of  $\alpha = 0,05$  so  $H_0$  is accepted and  $H_a$  rejected. Likewise with the calculated posttest scores on the critical thinking skills of students in the experimental class and control class with 0,746 of the  $\alpha = 0,05$  value of  $H_0$  accepted

and  $H_0$  rejected. So the conclusion that the data pretest and posttest in the experimental class and the control class has a homogeneous population variance.

As in the discussion of these findings researchers can detail in accordance with the formulation of the problem as follows.

- 1) Formulation of the problem 1: Is there a difference in the critical thinking skills of students between pretest and posttest when performing treatment by using Problem Based Learning model in the experimental class?

Based on the analysis of quantitative data using SPSS version 20 found that there are differences in the ability to think critically on the pretest and posttest during a treatment in the experimental class. Where the pretest scores indicate less than the posttest scores were already doing treatment. This is viewed in percentage is the experimental class pretest before treatment by an average of 21.31% while the posttest already perform treatment with an average of 33.67%. To support the statistical differences, when implementing the learning by using Problem Based Learning model of the writer as a researcher participating observing lessons conducted by social studies teachers, and it looks the critical thinking skills of students high in implementing the learning in the classroom.

As for it is seen a variety of students activities such as able to present the results of group discussion. So it can be said that there is the effectiveness of the learning model Problem-based learning. Where the advantages as disclosed Trianto (2009, p.96) states that there are 5 advantages including: 1) In accordance with the real life of students; 2) Concepts according to the students' needs; 3) Fostering the nature of student inquiry; 4) Strong concept retention; And 5) Improve problem-solving abilities.

It can be concluded that the excess of the Problem Based Learning learning model proven to see the effectiveness of a teaching model to measure critical thinking skills of students.

- 2) Problem Formulation 2: How big is the difference in the critical thinking skills of students between pretest and posttest using conventional teaching methods in class control?

Based on quantitative data analysis using SPSS version 20 software applications the result is that there are differences in the critical thinking skills of students at the time of pretest and posttest when studying with no special treatment in the control class. Where the pretest score shows smaller than the posttest score but the difference is very thin. It is seen from the average pretest the control class 18.92%, while the posttest score has been carrying out a conventional learning with an average of 26.10%. Although posttest scores is larger it because their similar characteristics between the control class experiment class in terms of performance.

Where the control class that becomes the comparison class in the learning process is not given special treatment, it turns out that critical thinking ability is less visible and the condition of the students in the classroom tends to be passive. Students

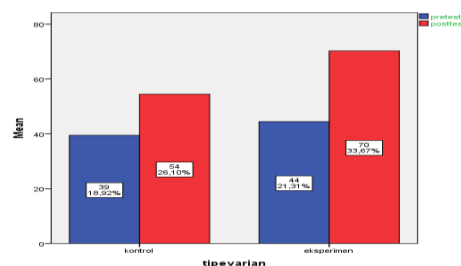
are said to tend to be passive because the learning process is still using the lecture method.

According to Purwoto (2003, p. 67) mentions the deficiencies in the use of conventional learning models, among others: 1) The learning process runs boring and students become passive, because they're not given the opportunity to find the concept itself taught; 2) Density of concepts given can made students not able to understand the material taught; 3) Knowledge gained through this model is more quickly forgotten; 4) Lectures cause students learn to memorize that does not lead to the emergence of understanding. It's like in the teacher control class that is active in class compared to the students, so the students is not actively manipulating and not actively interacting with the environment.

- 3) Problem Formulation 3: How big is the significant difference between pretest and posttest when performing treatment by using Problem Based Learning model with the critical thinking skills of learners between pretest and posttest using conventional teaching methods in class control?

Based on the analysis of quantitative data by using application software SPSS version 20 the result is that there are differences in the critical thinking skills of students between pretest and posttest when using treatment of the Problem Based Learning model in the experimental class with the critical thinking skills of students between pretest and posttest use The conventional learning method in the control class. It can be seen from the graph that the result of acquisition by using SPSS version 20 as follows.

**Graph 1 Difference Value average pretest and posttest experimental class and control class**



Based on the above table there is a difference, where differences can be seen from the increase in the average pretest and posttest significantly in the experimental class and the same goes with the control class appears there is little difference between pretest and posttest as shown in the blue graph the results of the average score pretest The experimental class was 39 (18.92%), while the control class was 44 (21.31%). Furthermore, the red graph average value posttest experimental class was 70 (33.67%) while the control group was 54 (26.10%).

From the results of experimental class research shows there is an increase critical thinking skills of students after being given treatment (treatment) by using Problem Based Learning model. These results are consistent with the research that has made by Tika Muflihah Pajar (2010) with the title "Model Problem Based Learning with probing techniques to improve students' critical thinking skills". In his research concluded that

a significant increase in pretest and posttest. Pretest is significant value in the experimental group and 0,153 to 0,007 in control group. While the results show the number 54.4828 posttest for the experimental class and 0,439 for the control group. Significant value is obtained using two significant parties (Sig.2-tailed) was 0,000 where the rate is less than 0.05 indicates a very  $H_0$  (null hypothesis) was rejected.

Of the opinion means that there is a difference between the experimental class and control class when the class is one of the experimental class was given special treatment by using Problem Based Learning model.

Then it is the effectiveness of a method used. Results of this study was in line with research conducted by Winda Hrisanti with the title "Development of Critical Thinking Skills Students Through Problem Based Learning in the Social Studies (Class Action Research in VIII-B grade at 10 Bandung Junior High School Class). Winda research results, concluded that through learning model Problem Based Learning increase students' critical thinking that can be evidenced by the results in three cycles. The first cycle obtained the result of 34.21% and then increased in cycle 2 to 69.73% and the last cycle three got a percentage of 93.42%. This shows that Problem Based Learning can improve students' critical thinking. Researchers refer to this research because want to see the use of Problem Based Learning model and critical thinking skills.

#### IV. CONCLUSION AND RECOMMENDATION

Based on the results of research and discussion, it can be drawn conclusion as follows: 1) Based on the results of research on experimental class that uses Problem Based Learning model of critical thinking skills of students in VII grade at 1 Lembang Junior High School seen there are differences in related results when performing pretest and Posttest. This is seen through the technique paired samples test using SPSS version 20 application which is the critical thinking ability of experimental class learners with Sig value. 0,000 less than  $\alpha = 0.05$ ; Then  $H_0$  is rejected where the pretest score shows smaller than the posttest that has been doing the treatment. This is when viewed in percentage of pretest trial class before treatment with an average of 21.31% while posttest has been treated with an average of 33.67%. Ability to conclude at the moment. So it can be said model of learning Problem Based Learning influential to the critical thinking ability of students; 2) Based on the result of the research with the control class using conventional learning model on the critical thinking ability of the students in VII grade 1 Lembang Junior High School, there is an increase of pretest and posttest result which will be produced not too much improvement. This is seen through the technique paired samples test using SPSS version 20 application processed with the ability Sig 0.000 smaller than  $\alpha = 0.05$ ; Then  $h_0$  rejected Can be concluded the existence of differences in the ability of critical thinking. This is when viewed from the average pretest in the control class 18.92%, while the posttest score has been implemented conventional learning with an average of 26.10%.

; 3) Based on the results of pretest and posttest in the experimental class using a model of problem based learning to control class that uses the conventional model that both have

different critical thinking skills that are very significant. It is seen from the chart in the previous chapter that shows that the experimental class blue with the average value of the experimental class pretest was 44 (21.31%) while the control group was 39 (18.92%). Furthermore, the red color chart shows the results of the average score posttest experimental class was 70 (33.67%), while the control group was 54 (26.10%).

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