Post Problem Learning Model to Improve Creative Thinking Ability

Supriyanto [*], **Nasution** [**], **Wisnu** [***]

Post Graduate School of the State University of Surabaya

Abstract- **Model of problem posing learning to improve creative thinking skills**. The ability to think creatively is one of the 21st century learning skills, this study aims to describe students' creative thinking abilities in social studies learning by using themodel *Problem Posing*. The subjects in this study were 28 students of class VIII SMP Negeri 1 Tulangan in the 2019 school year. The researchers used primary data and data collection using creative thinking tests. The test is done before and after learning. The results showed that the results of the *independent sample t-test posttest* students' creative thinking ability showed that there were differences in the ability to think creatively between the experimental class and the control class after being given treatment. Based on theanalysis *t-test* , it was concluded that thelearning model *problem posing* influences students' creative thinking abilities. This research is useful for teachers to develop learning to be more innovative and creative that is fun in the classroom and increases the ability to think creatively. Thelearning model is *problem posing* implemented in the classroom because it can improve the ability to think creatively and understand how to deal with problems and conflicts that occur in society and is expected to optimize the ability to think creatively.

Index Terms- Problem Posing Model, Creative Thinking Ability.

I. INTRODUCTION

Economic actors are people / institutions that carry out economic activities. There are four economic actors, namely family or consumer household, corporate or producer household, government household and overseas household. The four actors have an important role in moving the country's economy in accordance with its role (Ministry of Education and Culture: 2017).

In economic activities, humans always try to fulfill their needs, so they are required to use economic principles so that their needs can be met. Students become part of the community who have a role as economic actors also have unlimited needs both current needs and future needs. So that in an effort to meet their needs humans will act as *homo economicus* (Wilkinson, 2008) which means that humans in their efforts to achieve prosperity will always break away from morals and act as economic creatures.

The role of family households / household consumers, namely as consumers by consuming goods and services produced by producers sold to consumers then consumers pay for goods and services with money from the use of production factors that are lent to corporate households, the second role is as a factor provider production which includes the provision of land, labor, capital and expertise for producer households. The role of company households / producer households is to produce goods / services. The goods and services are then offered to consumers or buyers. The role of government households is as a regulator of a country's economy, as consumers to buy supporting facilities and infrastructure and as producers in state-owned enterprises. The role of foreign households is evident in international trade in export and import activities (Ministry of Education and Culture: 2017).

Learners must understand the importance of social science, namely to solve economic problems including the limitations of natural resources, but increasing human needs.

In primary and secondary schools social studies subjects are compulsory subjects for students whose aim is to foster sensitivity in the community and develop knowledge (Article 37: 2003 of the National Education System Law). To get broad and in-depth knowledge, IPS is formulated in an integrated manner.*The National Council for Social Studies* (1994: 3) also explains that 21st century learning and thinking skills that IPS need to develop for students: (1) critical thinking skills and problem solving, (2) contextual learning skills, (3) communication , (4) Information and media literacy, (5) Creativity and innovation skills, and (6) collaboration skills.

Development of ideas and ideas is based on students' social experiences in social life. Social experience is the basis of thinking ability (Sanjaya, 2010: 227). Social studies learning at the junior high level is expected to help students to solve problems and make decisions through the process of thinking and analysis.

Learning Outcomes become an important and strategic part in activities in an effort to improve the quality of human resources learning outcomes use to observe the level of success of students in mastering the competencies that have been taught. The importance of learning outcomes can be seen from the results of international studies conducted by *Trends in International Mathematics and Science Study (TIMSS)* and the *Program for International Student Assessment (PISA)* of Indonesian students. The results obtained from the 6 ability levels formulated by almost all Indonesian students up to level 3 while many students from other countries reached level 4, 5 and 6 (Kemdikbud, 2014: 10). This data shows that the quality of education in terms of the deepening and expansion of material is still relatively low when compared to other countries.

The ability to think creatively is one of the competencies that is considered a life skill that is one of the goals of national

education. The ability to think creatively can make students have many ways to solve problems with various perceptions and concepts. The importance of developing creative thinking abilities is based on four things, namely: (1) creative ability to manifest itself, (2) ability to solve problems in various ways, (3) provide individual satisfaction by busy themselves with creative ways, and (4) increase quality of life in a creative way (Munandar, 2009). During learning activities students should be left looking for or find their own meaning from each material. Students need to be given the opportunity to understand concepts with their own language so that they are able to solve problems (Slavin, 2011). Social studies learning should be designed to achieve the ability to think creatively. The ability to think creatively is very helpful for students in building a new knowledge and solving various problems and giving different ideas. Sudarma (2013: 13) explains that every human being is essentially a creative being. External factors are an important part that can motivate students' creative thinking abilities. But that potential must be optimized with learning and habituation. the ability to think creatively is a basic capital that must be had in facing this globalization era. The ability to think creatively can be taught in school by practicing patterns / habits of thought (*habits of mind*).

The facts found in the field of low ability to think in social studies learning in SMPN 1 Tulangan Sidoarjo, this is because students are only passive in accepting material which ends only in stage C1, namely understanding. Passive learners can be seen during group discussions, only a few active students, while others are passive.

To improve students' creative thinking abilities, there must be learning innovations, namely by applying problem-based learning, which also requires students to make questions itself so that students become creative, the learning model is problem posing.

The problem presented is not abstract but real so it is easily understood by students, the problem is a complicated problem faced by students in daily life. In the problem posing model, the problems created tend to be free; the point is not always directly related to KD, but more open, as a form of deepening of the subject matter. But it would be better if the problem has something to do with the BC discussed so that the allocation does not interfere with the hours of learning as a whole.

In the process of learning *Problem Posing* can be done by groups or individuals but in this study the researchers apply it in groups to hone students' sensitivity to others and work together between students with other students. In applying the problem of learning posing begins with making a problem by students in accordance with the stimulus that has been given, namely an image and text. Learning with problem posing will greatly help students in making a question and then solving it (Thobroni, 2015: 281). The advantages of thelearning model *problem posing* can increase the activities of students so that they are more active in learning, have a fighting spirit, are confident and have thoughts to solve problems.

Based on the background of the problem, the formulation of the problem in this study is how the influence of thelearning model *problem posing* on students' creative thinking abilities on the material of economic actors and their role in the economy? This study aims to analyze how the influence oflearning models *problem posing* on the ability to think creatively

II. RESEARCH METHODS

The approach used in this study is quantitative, where research is data processing in the form of quantitative figures. (Sugiyono, 2013: 14). *Quasi Experimental Design* is a type of research used by researchers.*Nonequivalent control group design* is the design used in this study (Sugiyono, 2015: 116). The design was similar to the *pretest-posttest control group design*, but in the *Nonequivalent control group design* the experimental group and the control group were not chosen randomly. The sample selection uses a saturated sample technique where all members of the population are used as samples. In this study the variable is the independent variable 1 (X_1): Model *problem posing*. Dependent variable 1 (Y_1): The ability to think creatively. Class VIII-B and VIII-D are the subjects in this study which are located in SMP Negeri 1 Tulangan Sidoarjo in semester 2 of the 2018/2019 academic year.

Sugiyono (2018) said that the basis for decision making is whether or not the research hypothesis is based on the comparison of $t_{arithmetic}$ with t_{table} at a significance level of 5% with information if $t_{arithmetic}$ is greater than t_{table} ($t_{arithmetic} > t_{table}$), then the hypothesis is nil (Ho) is rejected and the alternative hypothesis (Ha) is accepted subsequently if $t_{arithmetic}$ is smaller than t_{table} ($t_{arithmetic} < t_{table}$) the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected.

Furthermore, the basis for testing the hypothesis by taking into account *Sig (2-tailed)*, if *Sig (2-tailed)* <0.05, it means that there is an influence of the treatment given but if *Sig (2-tailed)* > 0.05, then there is no influence from giving treatment (Priyatno: 2014). Hypothesis is said to be zero (Ho) if thelearning model *problem posing* does not affect the ability to think creatively then the hypothesis is said to be alternative (Ha) if thelearning model *problem posing* influences the ability to think creatively.

III. RESULTS AND DISCUSSION

1. Learning Device Validation Results Validation of learning

tools by experts in the field of education before research is conducted. The validators in this study are (1) Dr. Agus Suprijono, M.Pd, a post-graduate lecturer at Unesa, and (2) Dr. Sukma Perdana Prasetya, S.Pd., MT, lecturer in Social Sciences Education at Surabaya State University.

One tool used by teachers to teach is the lesson plan that has been validated by experts so that the lesson plan is valid. The average score of validation results is 3.31 which means good and can be used with a little revision, the suggestion from the validator is the allocation of time in minutes because each school has a different allocation of time.

Before conducting learning, the teaching material of students must be feasible before being used in learning. The average score of validation results is 3.2 which means good and can be used with a little revision.

The validation of the Student Activity Sheet contains a statement which will later be used as a treatment in improving students' creative thinking abilities. The average score of

validation is 3.14 which means good and can be used with a little revision.

The instrument for evaluating the ability to think creatively must be validated first. The average score of validation results is 3.41, which means good and can be used with a little revision.

2. Item validity test

The research instrument that was validated by the expert was then practiced in the pilot class to find out the level of implementation in learning. Then for the assessment instruments the results of the level of validity and reliability are analyzed The questions to be tested must first be tested for validity with a validity test to be precise and careful in performing their measurement functions. The formula ofcorrelation *product moment* from *Karl Pearson used u*ntuk calculate the validity of the item. The results of the calculation of r_{xy} are then compared with the figures in thetable *product moment*, with a significance level of 5%. The item is said to be valid if the results of rcalculated$_{xy} \geq$ r$_{table are}$. The criteria for$_{xy is}$ like the table below. Based on trials of 16 items there were 10 valid items and the remaining 6 items were invalid. Of the 10 valid items then used as instruments for data collection in actual research in the experimental class and the control class.

Table 1
Summary of Test Results Validity

No.	N Correlation value	Information
1	0.683	Valid
2	0.516	Valid
3	0.724	Valid
4	0.848	Valid
5	0.555	Valid
6	0.664	Valid
7	0.729	Valid
8	0.755	Valid
9	0.672	Valid
10	0.598	Valid

3. Reliability test items

Item number 10 are 10 which are 6 valid, then the level of reliability is tested. Reliability shows the level of complexity or reliability of an instrument in carrying out its function as a measuring tool. The reliability level of a test is expressed in a number of the reliability coefficient. To calculate the reliability of essay questions.formula *Alpha Cronbach* to test the description of the problem (Arikunto, 2008)

Table 2
Summary of Reliability Test Results

Reliability Statistics

Cronbach'sAlpha	N of Items
, 884	10

In table 2 the results of the instrument reliability test analysisvalue *Alpha* of 0, 884. This shows that the overall analysis

results Instrument items are reliable, so this research instrument is feasible to use to retrieve data.

The study was conducted at SMP Negeri 1 Tulangan where class VIII-B as a control class that uses conventional learning while class VIII-D as an experimental class that useslearning models *problem posing*. Initial activities conducted by researchers providequestions *pretest* in the experimental class and the control class alternately . This is to find out the results of students' creative thinking abilities on the material of economic actors and their role in the economy before learning using themodel *problem posing*. The average value of learning outcomes using thelearning model *problem posing* of the ability of students to think creatively to solve social studies questions about economic agents before being given learning *(Pretest)* the average value in the control class 64 and the average in the experimental class 62. Mean in the table 4.13 (statistical table *pretest*) the experimental group was 61.96 with a standard deviation of 9.709 and in table 4.14 (thestatistical table *posttest*) the experimental group was 85.00 with a standard deviation of 7.822. While the mean in table 4.13 (statistical table *pretest*) the control group was 63.79 with standard deviation 9.079 and in table 4.14 (statistical table *postestt*) the experimental group was 76.68 with standard deviation 8.807.

The average value of learning outcomes uses thelearning model of *problem posing* students' creative thinking abilities to solve social studies questions about economic actors and their role in the economy after being givenmodel learning *problem posing.* The average in the control class is 77 and in the experimental class is 85. It can be concluded that the creative thinking ability of students in the experimental group is higher than the control group. The problem posing learning model has a positive effect on students' creative thinking abilities.

4. Hypothesis Testing Results for Creative Thinking Ability Hypothesis

testing uses *Independent Sample T-Test* with *SPSS 24.00* with a significance level of 0.05. Hypothesis testing is intended to determine whether the learningmodel *problem posing* influences the ability to think creatively. The basis of the test is that if t$_{arithmetic}$ > t$_{table}$, then H_o (null hypothesis) is rejected and H_a (alternative hypothesis) is accepted. If t$_{arithmetic}$ <t$_{table}$, then H_o (null hypothesis) is accepted and H_a (alternative hypothesis) accepted (Sugiyono: 2018)

Hypothesis testing begins with a *pretest* in the control class and the experimental class, then *posttest* in the experimental and control class. Test *independent sample t-test* on *the pretest* with the aim of measuring the similarity of the experimental class and control before treatment. After that the *posttest* aims to see the difference in influence caused by the two classes after being given treatment.

Hypothesis formulation of students' creative thinking abilities as follows.

Ha: There is ainfluence of the use of models *problem posing* to creative thinking abilities of students of class VIII

Ho: There is no impactuse of the model *problem posing* on thecreative thinking abilities of students of class VIII

Value $_t$ which is 0.650. The value of t_{table} at (df.54) significance of 0.05 amounted to 1.674 (Priyatno: 2016). if

compared then $t_{arithmetic} < t_{table}$ with the results of *Sig. 2 tailed* amounted to 0.518> 0.05 and it can be said that $H_{o\ is}$ accepted which means there is no significant difference in students' creative thinking abilities when *pretested*.

Value $T_{calculated}$ which is 3,738. The value of t_{table} at (df.54) significance of 0.05 amounted to 1.674 (Priyatno: 2016). When compared, $t_{count} > t_{table}$ with the results of *Sig. 2 tailed* 0.000> 0.05 and it can be said that H_a accepted, which means there are significant differences in creative thinking abilities of learners at the time of the posttest.

test results *Independent sample t-test pretest* creative thinking ability of students showed no difference in the ability to think creatively between the experimental class and the control class before being given treatment. While thetest results *independent sample t-test Posttest* students' creative thinking ability showed that there were differences in the ability to think creatively between the control class and the experimental class after being given treatment. Based on the above analysis it can be concluded that thelearning model *problem posing* influences students' creative thinking abilities.

The discussion will discuss the results of research for justification of the data found and theoretical studies. From the learning outcomes it can be seen that the two data groups tested were the group of students who were treated using thelearning model *problem posing* and the group of students who were treated with conventional learning models.

Based on the normality test, the significance value obtained for the analysis of the normality of the ability of creative thinking *pretest* was 0.168 and *posttest* was 0.94 for the experimental class and then theresults were *pretest* 0.067 and the *posttest* was 0.125 for the control class. Both test groups have significance values above 0.05, so it can be concluded that the data of creative thinking ability in each group is normally distributed.

Based on the homogeneity test for the homogeneity test, it is obtained avalue *pretest* of 0.398 homogeneity *(posttest)* of 0.553 because the significance number is greater than 0.05, it can be concluded that the sample variance is homogeneous.

The average value of students' creative thinking skills in the *pretest* in the control class was 64 and in the experimental class was 62 then by looking at the results of the *independent sample t test* then obtained $t_{count} = 0.650 < t_{table} = 1.674$. Results of *sig. 2 tailed* 0.518> α (0.05) then HHa$_{o\ was}$ accepted and$_a$ rejected. This shows that there is no difference in students' creative thinking abilities in the control or experimental class.

Then given treatment *(treatment)* in learning, carried out *posttest* which results of the analysis of the ability to think creatively *(posttest)* seen that the value of the creative thinking ability of students in the control class 77 and experimental class is 85 then by seeing the results of thetest *Independent Sample t test* and obtained $t_{count} = 3.738 < t_{table} = 1.674$. Results of sig. 2 tailed 0,000> 0.05 then H$_{o\ is}$ rejected and Ha$_{a\ is}$ accepted. This shows that there are differences in students' creative thinking abilities in the control class and the experimental class.

Learning in this study refers to theme 3 with the material economic actors and their role in the economy. To facilitate students in learning according to the material to be discussed, this activity begins by dividing the class into several study groups. Hiterogen group formation. The formation of groups in learning activities is intended to train students' creative thinking skills, so

that students can solve the problems given in the form of a group's creative thinking ability test. This is in line with the theory mentioned by Vygotsky (in https://rirymardiyan04.wordpress.com/201304/27/86/) who calls it ZPD, a proximal development zone where a child can do something without the help of an adult and whether a person children can do things with the direction of adults or collaboration with peers. Students with group friends discuss to solve the problems given in the form of tests of creative thinking skills. With discussions conducted by students, it is expected that students can be open with divergent thinking, so that when solving individual TBK, students have been previously trained to solve a problem they face. Researchers provide opportunities for each group to present the results of their group work in front of their friends. .

IV. CONCLUSION

From the research that has been done, it is concluded that thelearning model *problem posing* has an influence on students' creative thinking abilities. This is evident from the analysis of the t-$_{count}$ 3,738 with a significance of 0.05 of 1.674 and df 54. So it was concluded that students have high creative thinking abilities in learning activities usinglearning models *problem posing*.

There are several suggestions that need to be conveyed, namely:

1. For teachers, it is recommended to use thelearning model *problem posing* as one of the other ways in learning activities, because it can improve students' creative thinking abilities. This allows students to learn active learning to solve a problem

2. This research only examines the effect of thelearning model *problem posing* on students' creative thinking abilities, for researchers who want to examine with the same variables, it is recommended to use different materials.

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AUTHORS

First Author – Supriyanto, Post Graduate Student, State University of Surabaya, Indonesia, Suvri_2009@yahoo.co.id
Second Author – Nasution, Lecturer, Post Graduate School, State University of Surabaya, Indonesia, nasution@unesa.ac.id
Third Author – Wisnu, Lecturer, Post Graduate School, State University of Surabaya, Indonesia, wisnu@unesa.ac.id

Corespondence Author – Supriyanto, State University Of Surabaya, Indonesia, suvri_2009@yahoo.co.id, +628563605441