

# The Effect Of Two Stay Two Stay Cooperative Learning Model On The Critical Thinking Of Senior High School Students

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**ABSTRACT**-This study aims to determine the effect of *two stay two stay* on critical thinking skills and to find out how much improvement *two stay two stay* has on students' critical thinking skills. This research is a quantitative study, the type of research *Quasi Experimental Design*. Sample in this study of Class XI IIS-1 as an experimental 17 and XI IIS-2 as a control class 14 students.

The results of the hypothesis test *t-test* of the *pre-test* between the control class and the experimental class the value of  $t_{count}$  was 0.288 with a significance value of 0.775, so it was concluded that there was no difference in the critical thinking skills *pre*-between the control class and the experimental class. At *post-test* obtained value  $t$  of 0.7300 with a significance value of 0.000, it is concluded that there are significant differences Critical thinking skills *post test* between the control class and experimental class means that there are significant cooperative learning model *two stay two stay* on students' critical thinking skills. Result the experimental class students have an N-gain value of 0.44 in the medium category. While the control class students have an N-gain of 0.26 with the low category. Thus be concluded that the use of *two stay two stay* has better influence and effectiveness than the use of the model of *numbered heads together* students on critical thinking skills.

**Keyword:** *Two Stay Two Stay Learning Model, Social Conflict, Critical Thinking.*

## I. INTRODUCTION

Education is a crucial for the sustainability of human life as a developer of human resources to be able to face various challenges in the future in various changes and negative impacts. Opinion of George F. Kneller in Zulfa (2010, p.1), education is an action and experience that has an influence on the growth and development of the soul (mind), character (character), or physical ability (physical ability).

Giving social studies subjects has the aim that students have the basic ability to think logically and critically, curiosity, inquiry, problem solving, and skills in social life, and work together in competing in pluralistic societies, both at local, national and global levels (BNSP, 2008, P.445). One of the social studies subjects in high school is Sociology.

Sociology, especially in conflict material, is a subject that has a fairly abstract scope of material and requires students to think critically and be able to solve problems faced. The teacher actually knows the situation that will occur with sociology learning, the whole material is from concepts and theories about society. Djunadi (2014) states that sociology lessons are boring because the approach applied by the teacher in classroom learning is less interesting. Sholahudin (2008) states that sociology learning is still considered as rote science where most students only memorize concepts and are less able to connect what they have learned with applications in society, so the class is still focused on the teacher as the main source of knowledge. In addition, the main method applied is lecture, so that it tends to be unattractive and boring for students. Hezti Insriani (2011) added that Sociology subjects are boring subjects according to some students.

Another problem that has been experienced in the sociology learning process is that the learning activities that take place in the classroom are still mastered by the teacher (teacher centered) as the main source of education. Such a situation certainly does not involve students in developing problems so that it can reduce or even kill students' mindsets, creativity, and activeness.

To anticipate these problems, an appropriate learning model is needed so that students can improve their critical thinking ability, namely cooperative learning models. Cooperative learning model is a model that can be used by teachers in the learning process. Each member has a role, there is a direct interaction between students, each group member is responsible for learning and also friends in the group, the teacher helps develop group interpersonal skills, and the teacher only interacts with the group when needed. That is the characteristic of cooperative learning (Isjoni, 2013, p. 20) Vigotsky in Huda (2012, p. 26) states that, if students interact with their friends who are more capable than them, students will be better able to use cognitive language and think critically in solving problems effectively. One of the cooperative learning models is Two Stay Two Stay which is learning

by forming students working in study groups, and there are other groups that provide explanations of the results of discussions with other groups. In addition, students also work together and help solve problems and encourage students to achieve each other.

Vygotsky added that interaction with the environment will make students gain knowledge from the results of the creativity and exploration of students' own knowledge. This will spur the formation of new ideas and enrich students' intellectual knowledge when students interact with friends or people who are more mature or smarter friends. The concept of scaffolding is a term related to cognitive development used by vigotsky to describe changes in support during a learning session, in which people who are more skilled at changing guidance are in accordance with the child's ability level. In this case, dialogue is an important tool.

Vigotsky views that children are rich in concepts but not systematic, random, and spontaneous. Thus, the concept can be met with systematic, logical and rational guidance. The hope is that the cooperative learning model type Two Stay Two Stray in learning will lead to social interactions that motivate students to work together and discuss each other. As a result, students will be able to think critically and bring together ideas or ideas in learning.

Research on the Two Stay Two Stray cooperative learning model had been previously conducted by Een Ruhama (2012), Anam, and Ervina Dika Tria Puspitasari (2016). The previous series of studies showed results related to an increase in learning outcomes that were significant after students were given lessons using the Two Stay Two Stray (TSTS) type cooperative model. However, there are some obstacles that arise when conducting research, namely the division of groups that require a lot of time. The effort to overcome the obstacle in this research is by forming groups that are as optimal as possible with similar abilities between groups. In addition, group division is only done once for several meetings, and researchers will further optimize the time allocation by determining the time needed by students at each step of learning.

This study aims to determine the effect of two stay two cooperative learning models on improving critical thinking ability in the subject of social conflict in class XI IIS Madrasah Aliyah Nurul Ummah Yogyakarta. The study was To find out how much influence the cooperative learning model type two stay two stray has on students' critical thinking skills.

## II. RESEARCH METHODS

This research was conducted at MA Nurul Ummah Yogyakarta, class XI IIS, even semester of 2018/2019 in May 2019. The population in this study were all students of class XI IIS at MA Nurul Ummah Yogyakarta. The sampling technique is probability sampling. Probability Sampling is a sampling technique that provides equal opportunities for each element (group members) to be chosen as sample members (Sugiono, 2014). The sample in this study were students of Class XI IIS-1 (17 students) as an experiment group totaling 17 students and class XI IIS-2 (14 students) as a control group.

The independent variables in this study were learning models, including the Cooperative Two Type Two Stray Type learning model and the Numbered Heads Together learning model. On the other hand, the dependent variable in this study is students' critical thinking ability in social conflict lessons. This study includes the type of research Quasi Experiment, which is intended to determine whether there is an effect of something imposed on the subject of research.

This study involved two classes, namely the experiment group and the control group, where the two classes were given different treatments. To find out students' critical thinking ability, students are given tests twice; before treatment and after treatment. Table 1 describe the design of this research.

Table 1. Research Desain

R	01	XI	02
R	03	XI	04

### Description:

- O1: Pretest result of experiment group
- X 1: Treatment on experiment group
- X1: Control group using NHT
- O2: Posttest result of experiment group
- O3: Pretest result of control group
- O : Posttest result of control group

Data analysis was done by comparing the average score of the learning outcomes of the experimental group and the control group. The data obtained is tabulated then the average is searched. Before analyzing the data, the scores of each sample group are first determined and then processed data by calculating the average value and standard deviation, Normality Test, Homogeneity Test, Hypothesis Testing (t test) with the similarity test on the pretest (t test two parties). Decision making and conclusion drawing is done using a significance level of 5% (0.05). Data obtained from the results of the pretest and posttest were analyzed by the n-gain formula. N-Gain is used because it shows the difference or how much improvement in students' critical thinking ability before and after learning with model Two Stay Two Stray.

## III. RESULT AND DISCUSSION

### 1. The Effect of Two Stay Two Stray Learning Model on Critical Thinking

The results showed that there was a significant influence between the Cooperative learning model Type Two Stay Two Stray and Numbered Heads Together cooperative learning on the ability to think critically in social conflict subject at MA Nurul Ummah Yogyakarta. The results of descriptive statistical analysis on the pre-test data are not much different, both in the

experiment group and the control group. The mean values of the experimental and control pre-test classes were 42.82 and 41.85 respectively. Furthermore, the posttest values in both groups were 87.88 and 69.00 respectively.

Table 2. Descriptive Analysis  
**Descriptive Statistics**

	N	Min	Max	Mean	Std. Deviation
Pre Eksperimen	17	32.00	70.00	42.8235	8.48701
Post Eksperimen	17	72.00	96.00	87.8824	5.76501
Valid N (listwise)	17				

**Descriptive Statistics**

	N	Min	Max	Mean	Std. Deviation
Pre Kontrol	14	30.00	70.00	41.8571	10.21204
Post Kontrol	14	52.00	84.00	69.0000	8.58442
Valid N (listwise)	14				

Descriptive analysis results show that the experiment group and the control group have a pre-test value that is not too far away. The value obtained during the pre-test is because students do not fully have knowledge of the material to be studied. Students are able to work on several questions but the answer is wrong. Different conditions are found in the posttest results, where students have obtained the material given by the teacher, in which both groups both have an increase in the posttest value. However, the number of increases in the posttest grade of the experiment group is much higher than the control group.

The t-test results of pretest data between groups showed a statistical value of 0.288 with a significance value of 0.755 (> 0.05) which showed that there was no significant difference in critical thinking ability before the implementation of the learning model. That is, the two experiment groups were not better than the control group in terms of ability to think critically or tended to be the same.

Furthermore, after being given treatment (experiment group with TSTS and control group with NHT), obtained tstatistics 0.7300 with P-value 0,000 (<0.05). So it can be concluded that there are significant differences in critical thinking ability between the experiment group and the control group. Descriptively it was also seen that the value of the critical thinking ability of the experiment group was better than the control group after treatment.

Table 3. Analysis on the critical thinking ability  
**Independent Samples Test**

		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre	Equal variances assumed		.577	.288	29	.775	.96639	3.35640	-5.89821	7.83099
	Equal variances not assumed			.283	25.335	.780	.96639	3.41848	-6.06939	8.00216
Post	Equal variances assumed		.147	7.300	29	.000	18.88235	2.58674	13.59188	24.17282
	Equal variances not assumed			7.028	21.986	.000	18.88235	2.68677	13.31012	24.45459

The difference in critical thinking ability of students who follow the learning model of Two Stay Two Stray with the Numbered Heads Together learning model is because each treatment has a characteristic in its application.

The cooperative learning model type Two Stay Two Stray can eliminate boredom because students are given the opportunity to interact with other groups, in order to spur the formation of new ideas and enrich students' intellectuals. In addition, this technique will also help students understand the concept, foster the ability to cooperate, improve critical thinking ability and the ability to help friends. The implementation of the type Two Stay Two Stray cooperative learning model contains activities that involve the activity of students in following the learning process. These activities include group discussions about the material being studied, so students can exchange ideas.

The findings of this study are in line with the constructivism theory by Vigotsky which reveals that the development of one's thinking skills can be built with the interaction between groups. Social relations are the most important factors that can trigger a person's cognitive development. According to Vigotsky, through interaction with the environment, students gain knowledge thanks to the creativity and exploration of student knowledge. New ideas will emerge and enrich students' intellectual knowledge when interacting with friends or people who are more mature or smarter friends, this is what is called ZPD. Vigotsky's idea of the zone of proximal development underlies learning and learning theory to improve quality and optimize students' cognitive development. Besides ZPD, Vigotsky also put forward the concept of scaffolding which is a term related to cognitive development to describe changes in support during learning sessions. People who are more skilled will change guidance according to the child's ability level. In this case, dialogue is an important tool. Vigotsky views that children are rich in concepts but not systematic, random, and spontaneous. The concept can be met with systematic, logical and rational guidance.

## 2. N-gain test Student Critical Thinking Ability Test.

The results of the N-Gain achievement of the pre-test and post-test critical thinking abilities of the experimental class and the control class can be seen in the following table. Difference on critical thinking ability between TSTS group and NHT group

Table 4 N-gain Test Results Achievement of Pre-test and Post-test Critical Thinking Ability

<b>Klass group</b>	<b>Pre-test Average Value</b>	<b>post-test Average Value</b>	<b>N-gain</b>	<b>Interpretation</b>
Ekspersimental Class	42,82	87,88	0,44	Sedang
Cntrol Class	41,85	69,00	0,26	Rendah

Source: Primary Data Processed

Based on the results of the N-gain above, it is known that the experimental class students have an N-gain value of 0.44 in the medium category. While the control class students have an N-gain of 0.26 with the low category. Thus it can be concluded that the use of the two stay two stray learning model has better influence and effectiveness than the use of the numbered heads together model of students on critical thinking skills in social conflict material.

## IV. CONCLUSION

1. There is a significant difference between the critical thinking ability of students who follow the learning model of Two Stay Two Stray with the Numbered Heads Together learning model. Students who use the learning model Two Stay Two Stray have better critical thinking ability than the NHT group (tstatistics > ttable / p-value < 5%). In the matter of critical thinking ability, there are several indicators developed to measure the level of students' critical thinking ability, including indicators of opinion, analyzing arguments, solving problems, analyzing problems, and concluding. This is in accordance with the opinion of Votsotsky that students must develop their own knowledge in their minds. Students should learn through interaction with more capable adults or peers. These interactions help to form new ideas and enrich students' intellectuals so as to build students' critical thinking ability.
2. The average value and the increase (gain) of students' critical thinking skills in the experimental class are higher than the average value and the increase (gain) of students' critical thinking skills in the control class using the numbered heads together method

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