Implementation Differences of Cooperative Learning Model Two Stay Two Stray (TSTS) Technique with Numbered Heads Together (NHT) Technique to Study Result of Students on Sociology

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Abstract: The purpose of this research is to acknowledge increases and differences of student's study result on Sociology. This research is conducted on XI Social Class in one Senior High School in Garut with using quasi-experiment method. This research used two classes, which two used cooperative learning model TSTS technique and NHT technique. According to hypothesis test, it can be inferred that class which used cooperative learning model TSTS technique shows more higher results with significant difference compared with class that used cooperative learning model NHT technique.

1 INTRODUCTION

Indonesia is a country on the development in every sector of its life. Education has a very important role in Indonesia development so it can used to produce better quality human resources. The problems that occurred on education currently is quality of the education itself. Education quality it can not be separated with its learning components. Those components are education purpose, students, teachers, study material, approaches and methods, media, study source and evaluation. One of the most impactful components, is the teachers, because they are the subjects that directly contacts with the students.

The tasks and function of the teachers in making of the condition on learning process which is educating can be implemented depends on the creativeness of the teachers on the study process, so it can create learning conditions which help to create active, creative, and fun study. Even the curriculum is so good, but if it's not followed with good infrastructure, it will be no means at all. One of the most have ability that teachers must have is how to choose and implement a learning model so it can increase the students comprehension according to the competency that targeted, which is impact on the increase on their study result.

Problems that are faced on Sociology learning in one Senior High School in Garut is there is still a student that has low results. There is still a student which has Sociology results below the passing grade. The Sociology passing grade is 76.

Study result of the XI Social students still low. It can be declared low because there are still most students that gets score below passing grade. Low results on this study could be caused by low interest and motivation because the study process just centered only to the teachers, so the study just only done in one way.

The lecture method which often used by teachers in the classroom is considered as the cause of poor attendance, learners high apathy, and passive learning environment (Vevea, R., and Harris, 2011). On the other hand, is certainly caused by factors within the learner, socio-economic aspects of his family, which is individual factor and social factor (Thobroni, M. and Mustofa 2012).

According to the factors above, one factor that can be improved is teacher's factor and teaching method. Teachers must choose and develop the innovative study method so the material can be delivered in full and the student can comprehend it more better and also increase the motivation that can increase students interesting study process. The development of study process every time always changing. Traditional learning method must be left behind and change with

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more modern model. In the way of constructivism approach on learning, one of the learning method which is get more responds is cooperative learning model (Isjoni, 2012).

Formulate "cooperative learning is o means of grouping students in small, mixed ability learning teams. The teacher present the group with a problem to solve or task to perform. Student in the group the work among themselves, help one another, praise and citizen one another's contributions. Students work in group of four to six member cooperate with each other to learn the material (Burden, Paul R. and Byrd 1999).

Cooperative learning is a learning model that helps students on developing their comprehension and attitude according with real life in societies, so working together with the group it will increase the motivation, productivity, and study result (Solihatin 2011).

Cooperative learning is the heart of problem-based learning. It is related to collaborative learning, which emphasizes the "natural learning" (as opposed to training resulting from highly structured learning situations) that occurs as an effect of community in which students work together in unstructured groups and create their own learning situation. (Philip G. Cottell, 1992).

Cooperative learning, as a more structured form of collaborative learning, provides a practical framework for implementing mutual goals such as promoting active learning; bridging the gulf between teachers and students; creating a sense of community; ensuring that knowledge is created, not transferred; making the boundaries between teaching and research less distinct; and locating knowledge in the community rather than in the individual (Whipple 1987).

In cooperative learning there are some technique that can be implemented on class. The technique that has been chosen by the researcher is Two Stay Two Stray (TSTS) and numbered heads together (NHT). These techniques are developed together by Spencer Kagan. Cooperative model TSTS technique is a technique that help students in studying and comprehending the material with information exchange.

Two stay two stray technique with looking on appropriate step will be very effective to increase the activity and study result (Hariyani, 2013), on the other side, the NHT technique is the technique that give the student to share the idea and considers the right answer. NHT technique can motivate the students to increase their partnership motivation (Wijayati, 2008). With NHT technique, the class can be more conditioned and noiseless, also the students can be more active on the study process (Sukanti, 2012).

Numbered Heads Together (NHT) is another instructional strategy designed to actively engage more pupils during lessons and, thereby, improve their academic performance (Larry, 2016). The research problem in general is "Can the cooperative model technique TSTS and NHT technique increase the study result of students in Sociology?". On the other side, the purpose of the research is to acknowledge the cooperative learning model TSTS technique and NHT technique help increase the students study result in Sociology.

2 RESEARCH METHODOLOGY

Population in this research are every student in XI Social class which is 190 persons. Sampling technique that is used in here is cluster random sampling. The researcher chooses the class that will become the sample is XI Social 1 class that used cooperative learning model TSTS technique, XI Social 2 class that used cooperative learning model NHT. Total sample from those two classes are 88 persons.

The research design used in this research is quasi experiment designs. The research method used in this research is randomized pretest-posttest control groups design using two classes, one experimental classes and one control class, randomly collected and then pre-treatment and post-test.

In this case, research that will be conducted by the researcher will use quantitative approach, where as in this research the data can be collected with numbers, about independent variable and dependent variables, will be collected in same time.

Collecting data technique in the research using test, participative observation, interview, documentation, Test is the statement or some tasks that has been planned to get the information about education attribute or psychologic which every questions or tasks has an answer or conditions which is assumed true (Zainul 2001).

Test is conducted in pre-test and post-test. Pre-test is to find student study result before the techniques implemented, and post-test is to find student study result after the techniques implemented. The test is written test with 30 questions multiple choice with the main topic social mobility. Participative observation is the researcher is involved in daily activities on the observed person or used as research data source (Sugiyono 2013).

This observation involves students and researcher directly to analyze the difference between cooperative model learning TSTS technique and NHT technique to study result on Sociology. The researcher conducts direct observation to XI Social class student about their study process before and after usage of cooperative learning TSTS technique and NHT technique, also with study result on Sociology before and after the test.

Interview is conducted to collect the data consultatively. This interview is conducted with the sociology teachers to know the condition of the students on the lesson and the material dissemination. So, when the research conducted it will fit with the research step. Documentation is conducted to get the name list and results list of XI Social Class to make it as a base for experiment class and control class grouping.

3 RESULTS AND DISCUSSION

3.1 Research Result

3.1.1 General Description of Student Results with Two Different Approaches

According to the pre-test and post-test results on social mobility topic with using cooperative model learning TSTS technique and cooperative learning NHT technique, there are the description of the means of study result of the students.

Table 1: Study result means with two different approaches.

	Experiment	Control
Pre Test	63,375	63,645
Post Test	86,229	82,395
n-gain	0,62	0,51

On the table 1 it can be shown that the pre-test mean for every class based on the difference test is not significantly different. This means that before the approach is implemented, these classes have an ability on same level so it is good to conduct the student results difference test. In the post-test, there is quite high difference between experiment class (86,229) and control class (82,395).

Also with the n-gain results from the pre-test and post-test means where control class 2 have the lowest n-gain (study result increase) that is 0,51, lowest than experiment class n-gain (0,62). This description shows that cooperative learning model TSTS technique give the better results even increase the study result more compared with NHT technique.

3.1.2 Hypothesis Test

Hypothesis test that will be conducted on this research is hypothesis test about the difference of study result with two different approaches, which are cooperative learning TSTS technique, cooperative learning NHT technique. Analysis method that conducted is two sample t-test. Testing model which is conducted is to test which approach that will impact study result more, which the indicators are the comparison of post-test score of those three approaches. From the testing model that has been quoted before, there will hypothesis test (t-test), that is.

H0: There is no difference study result between classes that use cooperative learning model TSTS technique with NHT technique on sociology subject.

H1: There is difference study result between classes that use cooperative learning model TSTS technique with NHT technique on sociology subject.

Because the hypothesis test using t-test, so the collected data must fulfil the requirement such as normality test and homogeneity test, for each compared data. If there is one inside the data group don't pass the normality assumption, t-test can't be used (Kruskal-Wallis Test as alternative) and does not need to test the homogeneity. But, if the data group is normal but not homogenous the t-test can't be conducted (t'-test as alternative).

3.1.3 Difference Test between Post-test Experiment Class and Control Class

Results about difference test of experiment class and control class can be shown from following table.

Table 2: T-test post-test experiment class and control class.

	X	t score	t table	Criteria
Experiment	86,229	3,339	2,013	Significantly Different
Control	82,396			

It can be seen from Table 2 that t-score from experiment class and control class post-test means is 3,339 > t-table on significance level 95% and degree of freedom dk = 48 – 2 = 46, is 2,013.

This shown that post-test score experiment class and control class significantly different or on the other word, cooperative learning model TSTS technique give results more better and significant than cooperative learning model NHT technique. It can be seen from post-test means of experiment class, which is 86,229 more bigger than post-test control class score, which is 82,396.

3.2 Discussion

3.2.1 Difference of Study Result of Students on Sociology between Experiment Class and Control Class

According to results of hypothesis test of study result on experiment class using TSTS technique significantly different with control class which used NHT technique. These two classes have been improved since TSTS technique and NHT technique implemented. But if experiment class and control class is compared, experiment class which used cooperative learning TSTS technique get more better results than control class 2 which used cooperative learning NHT technique.

The difference of the results that collected from those two class has several reasons, which are:

1) Each class characteristics are different. In learning process, not at all students have high learning motivation, but that problem can be solved if the teachers can give the motivation that encourage the student interest. So, the student can be more active when studying occur
2) Cognitive ability of the students is variative. Student cognitive ability from each class is variative, there are low, middle, and high, so, it is difficult to make cognitive ability on same level.

Otherwise, in learning process the teacher should controls and pay attention to the active student and less active student. For the less active student, is the task for teacher to motivate them, so they can be more active when learning process still occur so the learning process can be good and effective. In this research, it is proved that cooperative learning model TSTS technique give more better results that cooperative model learning NHT technique. Study result is a result from interaction between study action and teaching action which is influenced by two factors, which are: Individual factor and social factor. Individual factors that have a large influence on learning outcome are interest and motivation. With TSTS technique, students have big interest in studying, because studying become the activities that has more comfortable and fun. Motivation also has a big impact to the results achievement because motivation moves, directs the action, and choose study purpose which feels more useful for student life.

From this research, it can be concluded that experiment class which used cooperative learning model TSTS technique give more better results than control class which used cooperative learning NHT technique with significant difference, seen from means of study result of students. So, the cooperative learning model TSTS technique is the effective learning model in improving student results on sociology with social mobility as main topic.

4 CONCLUSIONS

Differences of study result between experiment classes with control class, which is significantly different seen from study result means by students from class which using cooperative learning model TSTS technique compared with students from class which using cooperative learning model NHT technique. This shows TSTS technique give more better study result than NHT technique on sociology study.

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