Pakistan Journal of Social Sciences

MEDWELL PUBLICATIONS

Enhancement of Student Activity and Learning Outcomes of Social Study Materials of Work Types

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Key words: Co-operative Jigsaw, quasi experiment, student activity, learning outcomes, implementation

Abstract: This study aims to test: influence of application of Jigsaw type cooperative model to student activity, influence of Jigsaw type cooperative model implementation toward student result of third grade student of elementary school. This research uses the design pattern of quasi experimental research (Quasi experiment) with the design of nonequivalent control group design. This research was conducted at SDN Randegansari in third grade students. The data obtained were collected by using observation and test method, then analyzed by using statistical test of difference independent t-test. The results showed that: implementation of Jigsaw type cooperative learning model influences student activity in learning Social Study grade 3 in SDN Randegansari. It can be seen that the average value of post test of student activity in the control class (conventional learning model) is 72.425 while the mean score of post test of student activity in the experimental class (Jigsaw type cooperative learning model) is 88.768 and the implementation of Jigsaw type cooperative learning model influences student learning outcomes in social study learning in class III SDN Randegansari. This is shown from the mean score of post test result of students learning outcomes in control class (conventional learning model) is 76.904, mean score post test result of student learning in experimental class is 84.054 (Jigsaw type cooperative learning model). The above research, it can be concluded that the Jigsaw Cooperative Model has an effect on student activity and student learning outcomes in the Social Study grade 3 in SDN Randegansari.

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Page No.: 124-130
Volume: 17, Issue 2, 2020
ISSN: 1683-8831
Pakistan Journal of Social Sciences

INTRODUCTION

Learning process is a process in which there is interaction activity between teacher and student and reciprocal communication that take place in educational situation to reach learning goal[1]. In the process of learning, teachers and students are two components that cannot be separated. Between the two components must

be intertwined interactively support each other, so that, the results of student achievement can be achieved optimally.

Education will be successful if all components related to education are well implemented. The learning process by using the appropriate learning model, multi methods and media aims to make the learning process can run effectively, so that, the learning objectives can be achieved well. Learning process of teacher-centered, although, in the form of demonstrations but if dominated informative lectures resulting in the learning process is passive, less fun, abstract and tends to cause saturation of students in the classroom which in turn becomes difficult subject matter impressed and reduce student interest on materials that should be students mastered.

Based on the observation of teachers, students and learning process as well as problems about the learning that has been described above. IPS learning process is still using the old pattern of direct learning model with a lecture method centered or only active teachers only. Learning activities like this do not involve the passion of students to learn, most students are sleepy, not spirited, so, less understanding what is taught. That way students cannot follow the material that has been taught optimally so that the standard of competence that should be achieved is hampered by the saturation experienced by students. With a sense of saturation experienced by students then have an impact with their learning outcomes. Therefore, teachers should be able to give new innovations to the learning process while learning takes place, so that, the results of third grade students can improve and achieve the standard of competence that has been determined.

The problem of social study in grade SDN Randegansari not only comes from the teacher only. In the implementation of learning it turns out most of the students have no responsibility to pay attention to the material that has been explained by the teacher because some of the students are still there is sitting still or passive and there is fun joking with seat mate. Low result of learning IPS class III SDN Randegansari, visible At the end of the semester test results that show the value of subjects IPS lower than other subjects. From the observation results obtained data that most of the third grade students have not achieved value above the KKM is 60. Of 28 students only 13 students (46.4%) Who scored above the KKM while 15 students (53.5%) were still under KKM.

Thus, the need for the application of appropriate learning model and can support the success of teaching and learning process well for students. To overcome the existing problems need improvement in the learning process of social studies. Efforts that can be done is to use other learning methods more interesting and fun to provide knowledge, creativity and socialization of students.

The learning model that can be applied to overcome these problems is the model that involves students working in groups is a cooperative learning model. Cooperative learning model (cooperative learning) is a learning model that emphasizes the interaction and active communication among students in groups. Cooperative learning is a lot of variety. One of them is cooperative learning with Jigsaw technique.

Research using cooperative learning model with Jigsaw type has several advantages including: easy to do; designed according to the characteristics of the child; designed to simplify the learning process is active and fun. From the advantages of using cooperative learning model with Jigsaw type is expected to improve student learning outcomes in IPS subjects. In addition to improving student learning outcomes, teachers and students hope to be able to reach the standard of competence of the 2006 curriculum.

The results of research conducted by Chusnal Ainy on Jigsaw Type Cooperative Learning Model in Teaching of Mathematics in Elementary School showed significantly higher academic learning outcomes than control group, eight studies showed no difference. The results of this study demonstrate superior cooperative teaching techniques and improve learning outcomes compared to individual or cooperative learning experiences. From the analysis of data of infrared Oley Ainy, it can be concluded that the students 'learning achievement in the experimental class (which follows Jigsaw type cooperative learning) is better than the student's learning achievement control (which follows the learning by using the model used by teacher). Another study by Huang *et al*.[2] under the title "Using Annotation Services in a Ubiquitous Jigsaw Cooperative Learning Environment" suggests that cooperative Jigsaws are suitable and practical in use in any learning environment. Based on the above explanation, the researcher will examine the influence of the application of cooperative learning Jigsaw model to improve the learning result of IPS subjects materials "kinds of work" in class III SDN Randegansari with the formulation of the problem as follows: Whether the application of cooperative learning model Jigsaw type effect on Student activity in learning IPS class III SDN Randegansari?; Does the application of Jigsaw type cooperative learning model affect the student's learning outcomes in IPS learning in class III SDN Randegansari?. The purpose of this research is to know the influence of the implementation of jigsaw type cooperative model to the students 'activity and the students' learning outcomes in the subjects of Social Science class III Primary School. The results are expected to be beneficial for all parties in improving student learning outcomes to be able to achieve KKM scores that have been determined by the curriculum KTSP 2006.

Conceptual framework

Cooperative learning model: Cooperative learning is a learning model that places students in small groups whose members are heterogeneous, consisting of students with high achievement, moderate and low, women and men with different ethnic backgrounds to help each other and work together to study the subject matter In order to achieve maximum learning outcomes. Nurulhayati[1] cooperative learning is a learning strategy that involves student participation in a small group to interact with each other.

Cooperative learning is structured in an effort to increase student participation, facilitate students with leadership experience experiences and make decisions in groups and provide opportunities for students to interact and learn together with students of different backgrounds. So, in cooperative learning students play a double role as a student or as a teacher[3].

There are several types of cooperative learning, including Head Togther, Cooperative Script, Student Teams Achievement Divisions (STAD), Team Games Tournament (TGT), Snowball Throwing and Jigsaw. From these models, the researcher chose Jigsaw type of cooperative learning model. In this learning the students are required to be able to work together with the group and able to explain the material that has been studied to other groups.

JIGSAW cooperative learning model: Jigsaw cooperative learning is one type of cooperative learning that encourages students to actively and assist each other in mastering the subject matter to achieve maximum performance. In the Jigsaw learning model, students have many opportunities to express opinions and process information acquired and can improve communication skills. The group members are responsible for the success of the group and the completeness of the material part that is learned and can communicate to the group.

According to Elliot Aroson[4] the steps of the jigsaw learning model are as follows: Split topics in sections (sub topics).

Form the original group, divide the students into groups of 4-6 people per group in a heterogeneous way. Assign each student in the original group to learn a sub subject of the lesson. Give students time to learn what is part of it.

Establish a group of interim experts, i.e., students who share the same sub-topic form a group of experts. At this stage time is given to this group of experts to discuss key concepts in their section topics and practice presenting the learned topics to their peers in the original group.

Ask the students to return to the original group and ask each student to present the topic of discussion results from the expert group in turn to the original group members. Other students are given the opportunity to ask questions as clarification. The teacher circles one group to another to observe the process.

The teacher asks the students to summarize the results in their group discussion and asks the group representatives to convey the conclusions of the discussion.

At the end of the lesson, teachers hold individual quizzes. The result of the value obtained by each group member is collected, then averaged in the group to determine the group predicate. In answering quiz, members can't help each other.

Give group awards like in Jigsaw technique. Based on the calculation scores obtained by members, the average results to determine a good group predicate. Evaluation by the teacher, after the calculation of the score of group awards conducted evaluation to determine the next step should be applied in order to obtain better test results.

Learning outcomes: Sudjana[5] suggests that learning outcomes are essentially behavioral changes. Behavior as a result of learning in a broad sense includes the areas of cognitive, affective and psychomotor. Subsequently Sudjana argues that learning outcomes are the abilities that students have after receiving their learning experience. Bloom[6] reveals that learning outcomes include cognitive, affective and psychomotor abilities.

Learning outcomes as one indicator of achievement of learning objectives in the classroom can't be separated from the factors that affect the learning outcomes itself. Sugihartono etc., mentioned the factors that influence the learning outcomes as follows:

Internal factors are factors that exist within the individual who is learning. Internal factors include: physical factors and psychological factors.

External factors are factors that exist outside the individual. External factors include: family factors, school factors and community factors.

Student activities: Learning is inseparable from the student's learning activities that is the interaction between students, teachers, learning resources and the environment, activities to process experience and or practice by listening, writing, discussing, reflecting on stimuli and solving problems. Learning activities are student involvement in the form of attitudes, thoughts and attention in learning activities to support the success of the learning process and benefit from the activity.

Learning activities are all actions contained in learning activities in the form of activities to see, talk, hear, drawing, writing, experimenting and mental and emotional activities that can support the learning process.

In the journal Kennedy[7], states that "Students learn more effectively by actively analyzing, discussing and applying content in meaningful ways rather than by passively absorbing information".

Social study: Social Sciences is known as a compulsory subject in elementary school since the enactment of KTSP with the following understanding:

"Social Sciences (IPS) is the science of human beings in their environment. The human who studies the activities of human life in a group called society both in the field of political science, economics, history, sociology and so on". "Social Science (IPS) is an integration of various branches of social sciences such as sociology, history, geography, economics, politics, law, culture. Social Sciences is formulated on the basis of reality and social phenomena that embody an interdisciplinary approach of aspects and branches-social science"[3].

Social study in elementary school is a teaching program that aims to develop the potential of learners to be sensitive to social problems that occur, in the community has a positive mental attitude towards the improvement of all inequities that occur and skillfully overcome every problem that occurs everyday either that befalls himself. As well as those affecting the community. This goal can be achieved when IPS programs are well organized.

MATERIALS AND METHODS

Research design: The type of research used is a study using a quantitative approach. Quantitative method is a method that research data in the form of numbers and analysis using statistics. The research design was using Quasi experiment (Quasi Experiment). The characteristics of the Quasi experiment method is that the experimental group or the control group is not randomly selected but by grouping of research subjects based on established groups. The reason for using quasi experimental method is to see the influence of Jigsaw cooperative model on student's learning outcomes, so that, the researcher compare to two classes.

The design used in this research is nonequivalent control group design. In the research design there are three steps: giving pre-test to measure student's initial ability, then given treatment in experimental class in the form of Jigsaw type cooperative model and not given treatment in control class. Afterwards, a test was conducted (post-test) with the intention to measure student's ability after receiving treatment. The use of the design was conducted to examine the effect of treatment, which in this study was the use of Jigsaw type cooperative model, in the experimental group compared with the use of conventional learning in the group control.

This research was carried out at SDN Randegansari, Driyorejo District, Gresik Regency, located at JI. Raya Randegansari with the subject of research is all students of class III SDN Randegansari, Driyorejo-Gresik Lesson Year 2016/2017 consisting of 2 rombel. Subjects in this study consisted of 28 students from class III A and 28 students from class III B, so that, the number of samples in this study that is as many as 56 students class III.

Variables to be studied in this study are classified as follows: The independent variable is the variable that influences or causes the change or the incidence of the dependent variable[8]. The independent variables in this study are Jigsaw type cooperative model.

The dependent variable is the variable that is influenced or which becomes the result because of the independent variables[8]. The variables bound in this study are the student activity and learning outcomes.

Data collection techniques: Data collection techniques in this study using observation and test techniques. In accordance with the type of data to be obtained and operational definitions of the characteristics to be observed in the study, the research instrument to be used is the observation sheet to collect data on student activeness at the time of learning and Instrument test in the form of description with the number of questions as many as 15 questions. Implementation of Jigsaw type cooperative model requires students to be able to think high level, so, the problem used is minimal cognitive domain at the level of analysis. The test instrument used also meets the validity and reliability test.

Data analysis techniques: Activities in data analysis are grouping data based on variables and respondent types, tabulating data based on variables from all respondents, presenting data of each variable studied doing calculation to answer problem formulation and doing calculation to test hypothesis which have been proposed. Before the hypothesis testing is done first test the assumption (test requirements).

The prerequisite test of analysis in the analysis of variation basically involves examination of normality test which is used in this research is Kolmogorov Smirnov test with 5% significance level (if calculation result has significant value >0.05 then data stated normal distribution and vice versa) and homogeneity test used in this research is Levene test with 5% significance level. Data is said to be homogeneous if it has F-value count >0.05 and vice versa. In this case testing is done by using IBM Software SPSS20.0 for Windows.

The hypothesis test was tested on the experimental design using the pre-test and post-test groups. In this case, prior research will measure the initial ability between the control class and the experiment using the pretest of critical thinking and it is expected that the homogeneous

pretest result means that student's initial abilities are the same. Then the data is compared to a class of experimental controls. For data derived from normal and homogeneous distributed populations were tested using t-test. In this case testing is done by using IBM Software SPSS20.0 for Windows.

RESULTS

Data description of research variables: Description of data in this study provides an overview of the data description of IPS learning outcomes and student learning activities are taught with conventional models as a control class can be seen in Table 1.

From the score of learning outcomes in the subjects of social studies with the application of conventional learning model can be known the average value of pre-test of 67.4 and the average post test value of 76.9. While the score of student activity in IPS subjects with the application of conventional learning model can be known equal to 74.49.

Description of IPS learning result data and student learning activity taught by Jigsaw type cooperative learning model as experiment class can be seen in Table 2.

From the score of learning outcomes in the subjects of social studies with the application of cooperative learning model Jigsaw type can know the average value of pre-test of 76.0 and the average post test value of 84.0. While the score of student activity in the subjects of social studies with the application of cooperative learning model Jigsaw type can be known as 83.16.

Hypothesis testing: Different independent test t test, also used to test the first hypothesis which reads "Jigsaw Cooperative Learning Model affect the student activity of learning IPS class III primary school can improve social skills.

The result of calculation in Table 3 shows that the average score of student activity score in the control class is 74.471 while the average score of student activity test in the experimental class is 83.146. From the mean value, it can be said that there is difference of student activity from post test between control class and experiment class, reinforced by t-test result that is t_{count} = -2.140 with significant level (sig.) <5%. This proves that there is a significant difference in student activity between the control and experimental class groups in other words the application of Jigsaw type cooperative Learning Model to the student's activity in the learning process of Social Science subject of the third grade students in elementary school, so that, the first hypothesis is: cooperative learning model type Jigsaw affects the student activity of learning IPS class III Primary school can improve social skills" has been proven.

Table 1: Students activity and learning outcomes in control class

	Control class		
	Learning outcomes		Student activity
Names	Pre-test	Post-test	Score
AA	60.0	60.0	57.14
AM	53.3	60.0	71.43
AFD	73.3	86.7	85.71
AR	73.3	73.3	71.43
AN	73.3	80.0	42.86
SA	60.0	73.3	57.14
BY	53.3	66.7	42.86
BSP	66.7	80.0	71.43
EP	66.7	80.0	71.43
LC	53.3	66.7	85.71
AR	73.3	86.7	100.00
MH	73.3	86.7	71.43
RP	66.7	73.3	85.71
DM	60.0	73.3	71.43
ED	80.0	93.3	71.43
RRI	66.7	73.3	71.43
RAS	73.3	86.7	85.71
NW	80.0	86.7	85.71
PKD	80.0	80.0	85.71
RA	66.7	80.0	85.71
RAZ	66.7	66.7	71.43
RB	53.3	60.0	85.71
YD	60.0	73.3	71.43
TY	80.0	80.0	85.71
TJ	73.3	73.3	85.71
WP	46.7	73.3	71.43
VL	80.0	86.7	85.71
ZA	73.3	93.3	57.14
Average score	67.4	76.9	74.49

Table 2: Students activity and learning outcomes in experimental class

	Control class		
	Learning outcomes		Student activity
Names	Pre-test	Post-test	Score
AM	66.7	80.0	71.43
ADF	60.0	66.7	85.71
ACP	80.0	86.7	85.71
AK	86.7	93.3	85.71
BBFP	80.0	86.7	71.43
CNS	66.7	73.3	57.14
DLP	53.3	60.0	57.14
EHF	73.3	80.0	57.14
FSS	86.7	86.7	71.43
FFR	53.3	60.0	85.71
IFNR	80.0	86.7	100.00
JCA	80.0	86.7	57.14
MWP	73.3	80.0	85.71
MFP	60.0	66.7	57.14
MCDA	80.0	86.7	85.71
MS	80.0	86.7	71.43
MAP	86.7	93.3	100.00
MFD	86.7	93.3	100.00
MFF	86.7	93.3	100.00
NAS	73.3	80.0	71.43
NNS	80.0	86.7	100.00
PPG	66.7	93.3	100.00
PM	73.3	80.0	100.00
PA	93.3	100.0	100.00
PAF	80.0	86.7	100.00
RN	46.7	80.0	71.43
SH	93.3	100.0	100.00
AAS	100.0	100.0	100.00
Average score	76.0	84.0	83.16

Table 3: Result of hypothesis testing 1

Student activity variables	Mean
Students actitity control class	74.471
Students actitity experimental class	83.146
t-Count	-2.140
Signification	0.037

T_{count} = -2.140; with significance value 0.001

Table 4: Result of hypothesis testing 2

Student learning outcome variables	Mean
Post test control class	76.904
Post test experimental class	84.054
t-Count	-2.610
Signification	0.012

To test the first hypothesis which reads "Jigsaw Cooperative Learning Model affect the learning outcomes in IPS class III primary school learning can improve social knowledge".

The result of the calculation in Table 4 shows that the mean score of post test of student learning outcomes in the control class is 76.904 while the mean score of post test of student learning outcomes in the experimental class is 84,054. From the average score, it can be said that there is difference of student learning result from post test between control class and experiment class, reinforced by t test result that is t_{count} = -2.610 with significant level (sig.) <5%. This proves that there is a significant difference of students 'learning outcomes between the control class and experimental group in other words the application of Jigsaw Model Cooperative Learning Model to the students' learning outcomes in the learning process of IPS subjects of the third grade students in elementary school, thus, the first hypothesis that reads "Jigsaw Cooperative Learning Model influences the learning outcomes in IPS class III primary school learning can increase social knowledge" has been proven.

The results showed that; application of cooperative learning model type Jigsaw have an effect on student activity in IPS student learning class III SDN Randegansari. It is also seen that the average score of post test of student activity in the control class (conventional learning model) is 72.425 while the mean score of post test of student activity in the experimental class (Jigsaw type cooperative learning model) is 88.768 and the implementation of Jigsaw type cooperative learning model influences student learning outcomes in IPS learning in class III SDN Randegansari. This is indicated from the average post test score of students 'learning outcomes in the control class (conventional learning model) of 76.904 while the average post test result of the students' learning in the experimental class is 84.054 (Jigsaw type cooperative learning model).

DISCUSSION

Discussion on the application of learning Jigsaw type cooperative model affects student activity to improve social skills: Cooperative learning Jigsaw is one type of cooperative learning that encourages students to be active and mutual and help each other in mastering the subject matter to achieve maximum performance. This is in accordance with the findings of this study which proves that the Jigsaw cooperative learning model has an effect on the student's learning activity of IPS class III elementary school can improve social skills because the significance value t arithmetic is 0.037 ($p<0.05$).

Discussion on learning outcomes of Jigsaw type co-operative model on student learning outcomes: Behavioral changes in the learning process occur as a result of interaction with the environment. Interaction usually takes place deliberately. Thus learning is said to succeed if there is a change in individual. On the other hand, if no change in the individual then the learning is not said to succeed.

Shoimin argues that the advantages of cooperative learning model is to enable students to develop their own creativity, ability and problem-solving skills. The expert's opinion above is in line with the findings of this study proving that the Jigsaw cooperative learning model influences the outcomes learning in IPS class III primary school learning can improve social knowledge.

CONCLUSION

Based on the research that has been conducted and the difference test with independent t-test, it is concluded that:

The implementation of Jigsaw type cooperative learning model has an effect on student activity in IPS learning of grade 3 student of SDN Randegansari to improve social skill. The average value of post test of student activity in control class (conventional learning model) is 74.471 while the mean score of post test of student activity in experimental class (cooperative learning model Jigsaw type) is 83.16.

Implementation of Jigsaw type cooperative learning model influences student learning outcomes in IPS learning in class III SDN Randegansari. This is also shown from the average post test score of students learning outcomes in the control class (conventional learning model) of 76.904 while the average post test result of student's learning in the experimental class is 84,054 (Jigsaw cooperative learning model).

Based on the conclusion of the research result, the application of Jigsaw cooperative learning model has an effect on the students 'activity and the students' learning outcomes, so, the researcher suggests to apply the learning model in the IPS lesson to improve social skills and social knowledge, so that, the students do not only study the IPS materials by using lecture method only (Conventional method).

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