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The Effect Of Make A Match (MAM) Type Model and Bamboo Dance Type Model Through Cooperative Learning on Students Motivation

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ABSTRACT. *Students motivation plays an important role in every learning process. This research used quasi experimental research design. The samples used were 60 students and they were requested to respond a set of motivation questionnaire. In addition, the students activity data was obtained from the observation sheet. T-test was used to determine the difference in motivation between experimental and control group. The result revealed that, the influence of the Make A Match (MAM) Type Model And Bamboo Dance Type Model Through Cooperative Learning on the motivation of the students.*

Keywords: Cooperative Learning, Make A Match, Bamboo Dance, Motivation Students.

INTRODUCTION

Education is one of the factors for improving the quality of human resources. In terms of the role of education is indispensable. In addition, the development of science and technology is also very rapidly, so it takes a qualified human resources with smart thinking patterns. This can be realized through education. According to Akpan (2010), science provides a very important contribution to all areas in life. One of the sciences in education, who are able to train the mathematics is mindsets.

Mathematics is a field of science that is very helpful in improving the process of logical thinking, systematic and creative. In practice, on the ground is not a little that fewer students love these subjects. These subjects are considered difficult and hard to understand. This can affect students motivation and participation in following lessons. The primary some study mathematics teachers in the schools say that participation and motivation of students in the subjects mathematics is still low, so the observance obtained by students is also insufficient. This is in accordance with most of the student learning outcomes on the logarithm of material still low, so needed a solution to increase the motivation and participation of students in following the process of learning. This is allegedly due to several factors that affect the motivation of the students.

In the classroom, there are five components in the learning process, namely: students, teachers, content, methods/ processes, and the environment (Williams & Williams, 2011). Based on the observations of the researchers are still many teachers who use conventional learning model. Conventional learning was chosen because it is easy in practice, so impressed the monotony. Need for alternative solutions to resolve the issue so that created an atmosphere of learning. One of them is to apply the model of cooperative learning. According to Hsiung (2012), students with cooperative learning produces better learning outcomes than individual learning. In line with the opinion of Tran and Lewis (2014), cooperative learning is more effective than conventional learning.

According to Zakaria et. al (2010), teachers needs to master the mathematical content to be delivered and choose a cooperative learning model that corresponds to the content. One type of cooperative learning model is a model of learning Make A Match (MAM). Cooperative learning Make A Match type model or find a partner was developed by Curran (1994). One of the advantages of this technique are students looking for the couple while learning about a concept or topic in a pleasant atmosphere. The weaknesses of the learning model MAM is being crowded classroom situation, for students looking for top pair cards that they hold all of the students who follow the learning process. Of these problems, the researchers will do a combination of cooperative learning MAM type model and cooperative learning bamboo dance type model, making the learning process more structured and purposed learning is also achieved. According to Akpan (2010), good teaching dependent on the teacher innovation.

One of the advantages of this technique is the existence of a clear structure and allow students to share with couples with different short and regular. In addition, students work with fellow students in an atmosphere of mutual and had many opportunities to manipulate the information and improve the skills of communication (Huda, 2011). As for the learning steps in this research was set up cards of questions and answers, break-out groups, and each student is given a card. Next students lined up and paired with each other while sharing information. After that, students look for pairs of cards that correspond to any questions or answers that they hold. Repeat the previous steps, when is enough students directed to conclude (Isjoni, 2010; Huda, 2011).

Math learning means learning about the concepts and structures contained within the boundaries that are studied in mathematics as well as trying to find a relationship. In the process of teaching and learning is certainly a teacher wants the students actively involved and motivated to follow the instruction. According to Pimta et.al. (2009), teachers should be able to develop teaching techniques to encourage students to actively participate in the learning process.

Reaction to achieve a particular goal can be seen from the participation of the students during the learning process takes place. According to Sardiman (2001: 98), learning activities are activities that are physical or mental that is doing and thinking as a series that cannot be separated. Maybe referred to in this research are all forms of student activity that involves physical, mental, or emotional students covering the activities of the visual, verbal, listening, writing, drawing, metric, and emotions during the learning process takes place, so that it formed a student's interaction with students as well as students with teachers. The research objectives one:

1. To determine the motivation of students using model MAM and bamboo dance through cooperative learning,
2. To determine the participation of students using model MAM and bamboo dance through cooperative learning.

METHODOLOGY

This research is quasi experimental research using the intact group comparison design research, where researchers take and form one group of a population. The group then divided into two parts as one of the group who were given the treatment and the other as part of a group that is not given preferential treatment.

Data collection techniques used in this research method documentation, observation, and question form. The documentation methods used to collect data about the student's exam results in the matter of logarithmic. Observation methods used to explore the student participation find out the participation of the students. The questionnaire method was used to measure student motivation in logarithms.

Test the hypothesis of research conducted with the t-test, to test a prerequisite before test hypotheses include test normality and homogeneity. Data normality test uses the Lilliefors test and data homogeneity test uses Bartlett test with significance level (α) = 5% (Budiyono, 2009).

RESULTS AND DISCUSSION

Normality test is done on experimental group and a control group. Normality test uses Lilliefors test. The result of normality tests at the beginning ability is shown on the table below.

Table 1. Result of Normality Test at the Beginning Ability

Normality test	L_{obs}	$L_{0,05;\alpha}$	Decision	Conclusion
Experiment Group	0,1026	0,161	H_0 accepted	Normal
Control Group	0,0813	0,161	H_0 accepted	Normal

Next, doing the homogeneity test, to know whether the sample that will be attached treatment and being control in this research has the same variance. The result of the homogeneity test at the beginning ability between the experimental group and control group is getting value value χ^2_{obs}= 1,2386 with critic area $\{\chi^2 \mid \chi^2 > 3{,}841\}$; χ^2_{obs}= 1,2386 $\notin$ DK. so that H_0 accepted. It means the sample that will be attached treatment and being control in this research has homogen variance.

Based on the 1st table above, on each sample gets Lobs < L 0,05;α so that H0 is accepted. It means, each sample that will be attached treatment and being control in this research come from populations that distribute normal.

Student Motivation Data

The data in this study motivation of students measured using questionnaire of motivation that is given to students in classroom experiments after the learning process is complete. The motivation students are classified into five categories, namely, high, very high, low, and very low. As for data description the motivation students class experiments can be seen in Table 2.

Table 2. Classification Of Motivation Grade Experiments

Score (in%)	The Frequency	The Criteria Of Motivation
86-100	7	Very High
70-85	18	High
60-69	5	Pretty
50-59	0	Low
0-49	0	Very Low

From Table 2. Above shows the overall value of the motivation of students in the experiment class of 30 students. Motivation is very high in the category of students as much as seven students, high category as much as 18 students, and the category is quite as much as five students.

Same above, as for data description of the motivation of the student's control class can be seen in Table 3.

Table 3. Classification Of Motivation Grade Control

Score (in%)	The Frequency	The Criteria Of Motivation
86-100	1	Very High
70-85	21	High
60-69	7	Pretty
50-59	0	Low
0-49	1	Very Low

From the descriptive data of the motivation of students to see that the motivation of students in experiment class higher than the control class. This is in accordance with the results of the data analysis. Where the average percentage of students motivation, classroom experiment

that is 79% higher than the average of the control class that is 74%. According to Vansteenkiste et.al. (2009), quality good motivation can optimize learning outcomes.

Based on the results of the research Prasetyana (2011) stating that students tend to respond to the consent to the application of learning Number Head Together and Make A Match. This shows that students are happy or otherwise respond very well to the process of learning using a learning model to Make A Match. As according to Elliot et al. (2000), defines motivation as an impetus that is inside the individual where the individual feels happy and excited after performing a series of tasks. In line with the findings of the Rilawati (2012) stating that the students in learning using the cooperative learning Make A Match type model can increase motivation.

Student Participation Data

In this study data may be obtained from the results of students observation or observation activity students during the learning process. This observation is done with a class experiment that aims to find out how active students in the class. The results of the observation average percentage to participation of the students using a cooperative learning (combination Make A Match type model with a model of cooperative learning bamboo dance type model) is 83%. As for the classification of the participating students shown in Table 4.

Table 4. Description Of The Data Participation Students

The value of the student's activities (in%)	The frequency	Categories
76 - 100	28	Very Good
51 - 75	2	Good
26 - 50	0	Good Enough
0 - 25	0	Less Good

From Table 4 above. the value data that often comes up is in the interval 76 to 100 is 28 students in the interval categories participation students are very good. While at intervals 51 to 75 with a good category there are two students and none of the students who are in the category of pretty good or less good. This shows that students in the class of experiments may be classified as very good.

The students are said to be motivated if there is a change in behavior or reactions towards the positive. Such behavior also observed through the participation of students in following the process of learning. Purpose the students participate because of the need for achieving (Moore & Rotter, 2010). This shows that positive behavior can direct students to participate in learning so that the goal has been reached. To achieve these goals the student should participate in the classroom. In line with the opinion Drakeford (2012), of the participation by using cooperative learning can increase student participation in the classroom.

According to research conducted by Desiana (2012) stating that on the model of learning Make A Match can increase the participation of the student in following the process of learning. Based on Table 4. Above, the possibility of a second the student's percentage value less than or equal to 75%. This learning more emphasis on the learning process of peer-learning. As according to Klinger (2006), peer-learning can improve student participation and interaction in learning. This is in accordance with that hypothesized by the researchers of "Participation students in following the process of learning using learning models Make A Match on a logarithmic least material 75%.". From the results of the calculations from the data retrieved (9.858) greater than (1.699) and 29 degrees of freedom and a significant level of 5%.

CONCLUSION

Teachers should be able to choose the model of cooperative learning is effective for certain content. This can encourage teachers to seek information about the kinds of cooperative learning model. When teachers find appropriate learning models, the next step the teacher can create an innovative learning model. Among them are learning, innovation by combining two models or models of learning approaches, and others. It aims to increase student's motivation and participation. This study only lasted for four weeks and on a small scale. This means that students are exposed to learning in a very short period. Therefore, research should take a longer time span and on a bigger scale so that the results of this study can be validated.

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