# The Effect of Learning Strategies to Trial By Jury in Participationt Mathematics Learning Student of Junior High School

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*Abstract -* **In this study aims to determine the participation of students' mathematics learning using trial by jury method and teaching methods of lectures on students. To know the influence of trial by jury learning method to the participation of learning mathematics of VIII students in Learning Year 2015-2016. This study is a quasi-experimental study. The population of this research is all class VIII. Randomly, class VIII-5 was selected as Experiment class and class VIII-6 as the Control class. the instrument of this research is to test the research subject using observation sheet. The results showed that the learning process using trial by jury model has a positive and significant effect on the increase of students 'mathematics learning participation compared to the lecture learning method in increasing the participation of students' mathematics learning.**

*Keywords: method totrial by jury, participation mathematics learning*

## I. INTRODUCTION

Mathematics is the science of the development of science*(Basisof*Science) and is very useful in everyday life, but the math is also a subject that is regarded as the difficult lesson for students of Elementary School (SD) to high school students (SMA). These conditions resulted in the lack of participation of students in mathematics. Students' participation is still relatively low compared to other subjects. The main factor is the teacher and pupil. Where students lack interest in learning math, while teachers can not create a fun learning environment, so students become less active in participating in math. Lack of student interest in learning math students themselves cause a lot of trouble. In terms of teachers, many teachers feel that the way they teach has been optimized so that no need to locate and determine the relevant approach. Then the mathematics teaching and learning process that took place in schools is a factor that can affect the learning process of students overall.

Teaching the monotony also make students feel bored. Usually teachers use conventional learning models and methods lectures as a way to deliver learning materials. Through conventional learning models and methods lectures, students will be more knowledge, but that knowledge only the information received from the teacher, as a result of learning becomes less meaningful because the knowledge gained by the students easily forgotten. The dominance of the lecture method in mathematics tend to be oriented to the materials listed in the curriculum and textbooks, as well as the materials discussed rarely associate with the real problems that exist in everyday life. By the time the teacher explains the material, students tend to be quiet and listen to what is described by teachers, students can not argue if there are things you want to ask related to the material in the book. So the lack of participation of students in the learning of mathematics, therefore, by using the method of *trial by jury* in mathematics learning is expected to describe graphically a systematic instructional planning. Thus, in the learning of students and teachers become active.

Method of *trial by jury* is a good method for triggering "teaching the controversy", learn to argue effectively on an opposing opinion and opposite opinion. With this activity will be able to stimulate discussion and gain a deeper understanding of complex mathematics problems. The format is similar to a debate but is less formal and run faster. It is expected that with the implementation of the learning method *of trial by jury* can be used by teachers in an effort to provide the knowledge, insight and experience to the students to the

concepts and principles of mathematics learning materials, so that students' participation will be achieved and increased.

According to Mel Silbermen (2009), the advantages of trial by jury learning method as follows: (1) This discussion model can stimulate students to be more creative, especially in giving ideas and ideas; (2) Can train to get used to exchange ideas in overcoming each problem; (3) Can train students to be able to express opinions or ideas verbally. In addition, discussion can also train students to appreciate the opinions of others.

In addition, Mel Silbermen (2009) also suggests that the method of learning by jury has several weaknesses, namely: (1) Frequent conversation in the discussion by 2 or 3 students who have speaking skills; (2) Sometimes discussion in the discussion extends, so the conclusion becomes blurred; (3) It takes quite a long time, which is sometimes not as planned; (4) In discussions there are often uncontrollable emotional disagreements. As a result, sometimes there are parties who feel offended, so it can disrupt the learning climate.

According to Sanjaya (2010), "The lecture method is a method that presents the lesson through verbal narrative or direct explanation to the group of students." While Djamarah (2006) states "The lecture method is a traditional method, this method has been used as a means of oral communication between teachers with learners in the process of teaching and learning. "Method lectures have several advantages. Sanjaya (2010) states the advantages of lecture methods as follows: (1) Lectures are 'cheap' and 'easy' methods, (2) Lectures can present a wide range of subject matter, (3) Lectures can give the main points (4) Through lectures, teachers can control classroom conditions, (5) Class organizations using lecture methods can be simplified. Besides, According to Sanjaya (2010) the lecture method also has deficiencies are: (1) The material that can be mastered by students as a result of the lecture will be limited to what is mastered by the teacher. (2) Lectures that are not accompanied by feelings can lead to verbalism. (3) Lectures are a boring method. Through lectures, it is very difficult to know whether all students have understood what is explained or not.

## II. METHODS

This study was conducted at MTs Negeri 2 Medan is located in Medan 3 Jl.Peratun. The research will be conducted in the second semester of the 2015/2016 learning year. The population of this research is all class VIII MTs Negeri 2 Medan consisting of 8 classes totaling 333 students. Samples taken from this study amounted to 80 students of class VIII MTs Negeri 2 Medan. This study was an experimental study with the observation sheet.

## III. RESULTS AND DISCUSSION

Having conducted research and data has been collected, the next step is to analyze the data. This study was an experimental study using two groups analyzed. Next will be presented in the following table:

1. Partısıpası Learning Matematıka Students with Learning Model Trıal By Jury

Calculate the scores of students' experimental learning class participation, the next step is to find the mean (average) with the formula:

$$M = \frac{\sum X}{N}$$

$$M = \frac{1564}{40}$$

$$M = 39.10$$

After the students' learning participation score and mean (average) score of student learning achievement, the next step is to find the standard deviation of the experimental class by writing $X_1^2$ amount into the formula of finding standard deviation as follows:

$$SD_X = \sqrt{\frac{(N_X \sum X^2) - (\sum X)^2}{N_X(N_X - 1)}}$$

$$SD_X = \sqrt{\frac{(40.61564) - (1564)^2}{40(40-1)}}$$

$$SD_X = \sqrt{\frac{(2462560) - (2446096)}{40(39)}}$$

$$SD_X = \sqrt{\frac{16464}{1560}}$$

$$SD_X = \sqrt{10,55}$$

$$SD_X = 3,249$$

It is concluded that the participation of students 'mathematics learning with trial by jury model on VIII-5 students of MTs Negeri 2 Medan in the 2015/2016 learning year is the average of the students' participation in the experimental class of 39.10 and the standard deviation of 3,249.

**Table 1** Percentage of Participation Student to Class Exsperiment

| No | Nilai | Jumlah Sampel | Persentase (%) | Keterangan |
|----|-------|---------------|----------------|------------|
| 1 | 41-50 | 17 | 42,5% | Very participate |
| 2 | 31-40 | 22 | 55% | Participate |
| 3 | 21-30 | 1 | 2,5% | Simply participate |
| 4 | 11-20 | - | - | Less participating |
| 5 | <10 | - | - | Not participating |

From the table above it can be seen that the value of participating students' many in numbers ie 31-40 (55%). Thus, the participation of students studying mathematics learning model trial by jury is at the level of participation.

2. Partısıpası Learning Matematıka Student with Lecture Learning Model

Calculate the score of student participation in control class, the next step is to find the mean (average) with the formula:

$$M = \frac{\sum X}{N}$$

$$M = \frac{1135}{40}$$

$$M = 28,38$$

After the students' learning participation score and mean (average) score of student learning participation, the next step is to find the standard deviation of the control class by writing $X_1^2$ sum into the formula of finding standard deviation as follows:

$$SD_X = \sqrt{\frac{(N_X \sum X^2) - (\sum X)^2}{N_X(N_X - 1)}}$$

$$SD_X = \sqrt{\frac{(40.32547) - (1135)^2}{40(40 - 1)}}$$

$$SD_X = \sqrt{\frac{(1301880) - (1288225)}{40(39)}}$$

$$SD_X = \sqrt{\frac{13655}{1560}}$$

$$SD_X = \sqrt{8,75}$$

$$SD_X = 2,959$$

Having known the score of student learning participation and the mean (mean) student participation control class of 28.38. The next step is to find the standard deviation of the experimental class and the standard deviation of 2,959.

**Table 2.1**
Percentage of Students 'Participation for Class Control

| No | Nilai | Jumlah Sampel | Persentase (%) | Keterangan |
|----|-------|---------------|----------------|------------|
| 1 | 41-50 | - | - | Very participate |
| 2 | 31-40 | 13 | 32,5% | Participate |
| 3 | 21-30 | 26 | 65% | Simply participate |
| 4 | 11-20 | 1 | 2,5% | Less participating |
| 5 | <10 | - | - | Not participating |

From the table above it can be seen that the value of participating students' many in number, namely 21-30 (65%). Thus, the participation of students' mathematics learning with lecture method is the extent Enough Participate.

Based on the results of research and discussion of the results of the study it can be concluded that thelearning model *trial by jury* is more effective than conventional learning in increasing the participation of students' mathematics learning. Thus the learning model *trial by jury is* positive and significant effect and can be used as an alternative learning can improve students' mathematics learning participation.

The data required in this study have been obtained through observation of student's mathematics learning participation in both research classes. As for some of the findings obtained as follows:

1. The experimental group or group of experimental model of trial by jury has the average value of students' mathematics learning participation of 39.10 while the control group ie the learning group with the lecture method obtained an average score of 28.38. This average score indicates that the group of experimental model of trial by jury has a higher participation compared to the group of lecture learning methods.
2. The Normality test using the Lilliefors test resulted in a list of normally distributed populations in the two study groups, where the experimental model of trial by jury group has L $_{value}$ <L$_{table}$ ie 9880 <1.6970 and the lecture learning method group has L $_{value}$ <L$_{table}$ that is 0.9883 <1 , 6970 so that the population is normally distributed.
3. Homogeneity test using F test is obtained F $_{value\ t}$ <F$_{table}$ is 1.099 <1.625, then the sample from both groups of homogenous learning and data obtained can represent the entire population.
4. Based on the calculation with the test "t" obtained t $_{value}$ > t $_{table}$ at the significance level α = 0.05 with dk = (N1 + N2) - 2 = 78 that is 15.424> 1.664. So that Ha is declared true and accepted. This means that the model of learning by jury has a positive and significant effect on the increase of students' mathematics learning participation in the VIII class of MTs Negeri 2 Medan in the 2015-2016 learning year.

## IV. CONCLUSIONS

The conclusion obtained is based on research conducted is as follows:

1. The average value of the participation of students' learning model *trial by jury* is 39.10. Obtaining the average value indicates that the experimental group had studied mathematics student participation is very high.

2. The average value of students' mathematics learning participation is given to the lecture method is 28.38. Obtaining the average value indicates that the control has a participation grade learn math pretty well.

3. The process of learning by using learning model *trial by jury* positive effect of increasing the participation of students 'mathematics learning which effectively amounted to 21.44% when compared to the lecture teaching methods to improve students' mathematics learning participation.

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