

The Effect of Question Students Have Strategy on The Result of Students Learning in Mathematics

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Abstract— This study aims to see whether or not it exists the effect of learning strategy “question students have” on the result of students learning in mathematics. This study is a quantitative research with experimental research. The population of the study is thirteen classes with samples are thirty nine students of experimental classes and fourty three students of control class. Instruments used is an essay test in the form of pretest and posttest which amounts to 10 items. The findings indicate that the class was taught by uses “question students have” strategy have increased by 28.205% with average 75.7 and standard deviation 16.9, while the class taught by the expository strategy have increased by 10.116% with an average 66.3 and standard deviation 15.3. Based on hypothesis show it was concluded that learning strategies “question student have” has had significant effect on result of students learning in mathematics.

Keywords—*question students have strategy, expository strategy, result of student learning in mathematics.*

I. INTRODUCTION

Education is means and the right tool to form community and nation that aspired, namely culture society and intelligent. Mathematics is subjects that require skills counting for completed questions related with numbers for understanding concept mathematics. Mathematics very important in everyday life, because without realizing whether they like and don't like it have used mathematics in everyday activities such as counting a spending money, measuring an object, etc.

The results of student learning is the ability gained after the child through learning activities (Ahmad Susanto, 2013). Because learning is a process where someone will obtain a form of change behaviora and understanding. And children who are categorized as successful in the learning are successful in achieving learning goals or instructional goals (Ahmad Susanto 2013).

When teachers and students were asked what resulted of students learning in mathematics were low. Based on the observations and interviews with one of the mathematics teachers with Mr. Muhammad Nur Eddy, said that "if students are asked to do the questions, they are generally

silent and reques the answer from other students or teachers, some students do not want to ask and prefer to remain silent if they do not understand the material because that shame with other friends, and some students can't solve the problem at the time of post test so that be infact for the result of learning student..

From the problems that have been described it to takes an effort that can affect the results of students learning in mathematics. One of the efforts is choose a strategy to order the lesson more precise in order to effect the results of students learn especially on eye lesson math. And the efforts that are considered could solve problem with use cooperative learning strategy type *questions tudent have* which is expected to involve students on active to involve students on active in learning mathematic. *question student have* strategy is a way that does not make the fearful side to learn what they need and expect. This method utilizes a technique that invites participation through writing, instead of the conversation (Melvin L. Silberman, 2013).

Question student have strategy which means in the Indonesian language is a question that starts from the students developed training learners to have skills ask a questions. Questioning skill is a used to get answers from others. Questioning can be viewed as a reflection of every individual's curiosity. While answering the question shows a person's ability to think. In the process of learning to teach the role of questions is very important, because through the question the teacher can guide and direct the students find any material to be learned, understand what really is not understood by students either in the form of questions asked by teachers or questions come from themselves, as well as questions that students start can be the main ingredients in learning activities to achieve the goals that have been determined.

II. METHODOLOGY

The population in this study is the students of class XI which consists of 13 classes with the average number of

students class is 40 students. Take the sample using *cluster random sampling*.

A. Types and Research Design

This research includes experimental research, the research is intended to determine whether there is the effect of using strategies of *student question have* for learning outcomes of the mathematics class XI MAN 2 Model Medan years 2015/2016.

Table I. Two Group Research Design (pre-test and post-test)

Class	Pre-test	Treatment	Post-test
Experiment	T_1	X_1	T_2
Control	T_1	X_2	T_2

Information :

T_1 : Pre-Test

T_2 : Post-Test

X_1 : Learning strategies of *question student have*

X_2 : Learning with ekspository

Collection technique of data in this study are questions in shape description / essay test on the material composition and function of the inverse function through a *pre-test* and *post-test*.

B. Analysis Technique

Analysis techniques of data to test the hypothesis using *t - student* (t -test). the formulation of research hypothesis is :

H_0 : There is have not effect of the *question student have* strategy for result of learning mathematic student in class XI MAN 2 Model Medan years 2015/2016.

H_a : There is a have an affect of the *question student have* strategy for result of learning mathematic student in class XI MAN 2 Model Medan years 2015/2016.

III. DISCUSSION

A. Result learning of experiment class

Students are given a pre-test to determine the initial ability of 10 items. The assessment is done on a scale of 100 and the score of each question is 20. then the post-test is given 10 items.

The results of pre-test and post-test in the experimental class are presented in the following table:

Table II. Summary Value Grade Experiment

Statistics	Pre-test	Post - test
Number of students	39	39
Number of Problems	10	10
Amount of Value	1855	2955
Average	47,564	75,769
Variance	343,252	288,866
Standard Deviation	18,527	16,996
Maximum Value	75	100
Minimum Value	10	20

The table shows that the students in the experimental class before being given a treatment derived average value

of 47,564 with a standard deviation of 18,527 and after the lesson taught by the *student question have* obtained an average value of 75,769 with a standard deviation of 16,996.

B. Results Learning Control Class

Students are given a pre-test to determine the initial ability of 10 items. The assessment is done on a scale of 100 and the score of each question is 20. then the post-test is given 10 items.

The results of pre-test and post-test in the control class are presented in the following table:

Table III. Summary Value Grade Control

Statistics	Pre-test	Post - test
Number of students	43	43
Number of Problems	10	10
Amount of Value	2415	2850
Average	56,163	66,279
Variance	206,949	234,635
Standard Deviation	14,386	15,32
Maximum Value	75	90
Minimum Value	10	20

The table shows that the students in the control class before being given treatment obtain an average value of 56,163 with a standard deviation of 14,386 and having taught with conventional learning, the value of an average of 66,279 with a standard deviation of 15,31779.

C. Effect using strategies of *Questions Students Have* to result of learning mathematic student.

The results of the calculation of data normality test in summary can be seen in the following table:

Table IV. Summary Table of Normality Test

Class	Data	N	L_{count}	L_{table}	Information
Experiment	Pre-Test	39	0,101	0,14	Normal
	Post-Test				
Control	Pre-Test	43	0,109	0,13	Normal
	Post-Test				

Thus, from the table shows that both samples have the distribution of the normal distribution and homogeneous. Then the next step is make test hypothesis for *post-test* only with the use t test.

Table V Summary of Hypothesis Testing

Statistics Value	Experiment Class	Control Class	t_{count}	t_{table}	CONCLUSION
Average	75,76	66,27	2,72	1,99	H_a accept
Variance	288,86	234,63			
Standard Deviation	16,99	15,31			
Number of Samples	39	43			

The table can be concluded that if $t_{\text{count}} > t_{\text{table}}$ then H_0 rejected and H_a in receive. This means that states that there are significant variations in learning outcomes and conducted by researchers.

To prove whether there is a significant and variations of learning outcomes by using the t test, the test results obtained by $t_{\text{count}} > t_{\text{table}}$ is $2,72 > 1,99$ on the level $\alpha = 0.05$ is means significant and variation of learning outcomes conducted by researchers, which means the alternative hypothesis which states that there is or there is effect strategies of *question students have* to result of students learning in mathematic

In the study seen that students in the experimental class taught by cooperative learning model *student question have* a more active and motivated to learn. Throught cooperative learning *question student have* not only active mentally, but also physically, as seen when the student participate to learn by asking questions and avoid saturation. with teachers' guidance, they learn in a discussion to make inquiries from things they do not know, not understand, and what they want to know about the composition and function of inverse functions, and also they learn to make better questions for questions which they prepare to be the best choice representing the questions of their respective groups. This makes students creative in learning mathematic. In addition, the cooperative learning model *question students have* aspects of communication between students and students and between students and teachers can be established and bring a more positive direction so as to improve the result of students learning in mathematics.

And the students in the control class taught by the expository starategi in receiving the lessons are quite low because the learning process is still impressing monoton, where the students just sit and listen to the teacher's explanation. The learning process also takes place passively because it does not involve students actively in the learning process so that the learning atmosphere feels stiff and sometimes feels slower.

IV. CONCLUSIONS

1. Based of data concluded that using cooperative learning model type *question student have* higher than expository model on teaching because that strategies have more active learning to make active student, more creative, and critical in learning, while in expository learning the learning atmosphere tends to be monotone and students still tend to be passive in learning.
2. There is a cooperative learning model type *question student have* effect to the result of students learning in mathematics on teaching. Based on the statistical *test t* obtained that $t_{\text{count}} > t_{\text{table}}$ is $2,72 > 1,99$ it means H_a accepted and H_0 rejected, which means "There is an effect *question student have* learning strategies to the

result of students learning in mathematics. So, use of *question student have* learning strategies *have* had a positive effect on result of learning mathematics students.

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