INCREASING STUDENTS INTEREST IN LEARNING MATHEMATICS USING LEARNING MEDIA BASED ON MACROMEDIA FLASH 8 ON THE SUBJECT OF CUBES AND RECTANGULAR PRISM

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ABSTRACT

This research aims to increase students' learning interest in mathematics using Macromedia flash professional eight media-based learning on the subject of cubes and rectangular prism on students class VIII B of SMP Muhammadiyah 1 Yogyakarta the academic year 2016/2017. The subjects of this research are students of class VIII B of SMP Muhammadiyah 1 Yogyakarta in 2016/2017. The object of this research is the mathematics learning process using Macromedia flash professional eight media-based learning. The techniques of data collection are observation and interview. The data are analyzed by qualitative descriptive analysis. This research is included in class action research consists of two cycles. The result of this research showed that Macromedia flash professional eight media-based learning can increase students' learning interest in the mathematics of class VIII B in SMP Muhammadiyah 1 Yogyakarta academic year 2016/2017. It can be seen from the result of the observation sheet about students' learning interest in each cycle, which is the percentage of students' learning interest in mathematics in cycle I is 55,06% with the criteria of enough and in cycle II was increased to 62,49% with the criteria of good. Moreover, each cycle's test result also increased, which can be seen from a test result in cycle I, which has 71,25, and in cycle II the mean was increased to 77,08.

Keywords: learning interest, learning media, Macromedia flash professional 8

INTRODUCTION

Mathematics is a science that is formed as a result of thought related to ideas, processes, and reasoning that is used to assist people in understanding and mastering problems related to social problems, Economics, and nature, so mathematics plays a vital role in educating the nation's life, advancing science and technology. A student will be encouraged to do learning activities and learning interests. Students ' interest in the subject matter is reflected in his desire to learn more from his ability to engage more or engage in various activities related to the subject matter.

Based on the results of observation that students are less interested in math subjects. It can be seen from the lack of attention of students when the teacher describes the material. Students are less concentrated, and the curate is involved during the learning process. Students are more interested in playing gadgets than listening to teacher explanations. Also, student learning outcomes are still low. Mathematics learning Results of grade VIII students can be seen from table 1 below:

Table 1. Value of UAS Mathematics grade VIII Semester Handicap

Class	CCM	Mean Score
A	76	61,63
B	76	49,67
C	77	56,20
D	76	52,13
E	76	47,77
F	76	48,83
G	76	49,38

From this problem, it is necessary to act on the learning process to increase the learning interest of students math by utilizing laptops as a tool in the learning process. This research aims to know the increasing

interest in learning mathematics using a media-based learning Macromedia Flash Professional 8 on the subject of cubes and rectangular prism in class VIII B SMP Muhammadiyah 1 Yogyakarta.

RESEARCH METHOD

This type of research is a collaborative class of action research. The design of the research used is as follows:

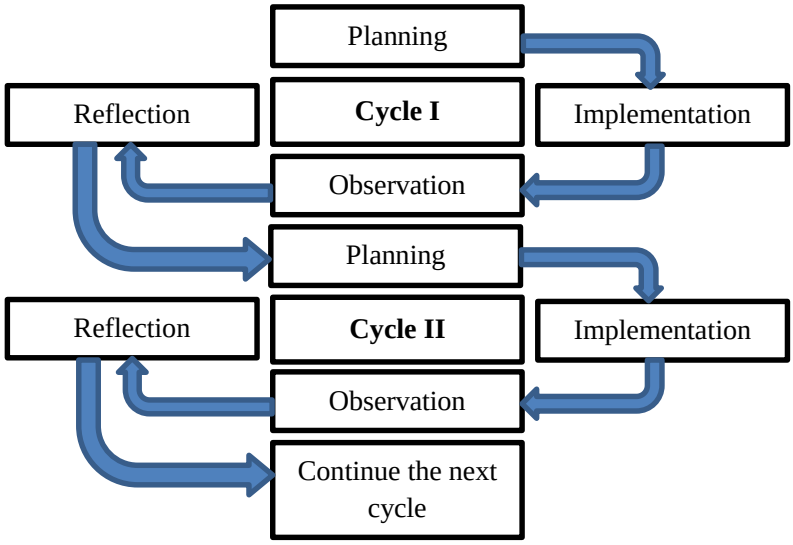

Figure 1. Design Research

Research conducted at SMP Muhammadiyah 1 Yogyakarta. The study was conducted in the even semester of lesson 2016/2017 in May 2017. The subject in the study was a class VIII B student of SMP Muhammadiyah 1 Yogyakarta, with 24 students. The object in the study is the process of learning in the application of media-based learning Macromedia Flash, professional 8 in the subject of cubes and rectangular prism of class VIII B SMP Muhammadiyah 1 Yogyakarta. This research was conducted to know the increasing interest in learning mathematics students using Macromedia based Flash Professional 8. The procedure of class action research is described as follows:

1. Planing, In the planning phase, begins with designing the action to be performed, among others: Observe the school condition, class condition, student characteristics, supporting infrastructure, and learning media commonly used in the process of learning mathematics. Set up a Learning implementation plan (LIP) and learning media based Macromedia Flash professional 8. Arranging and preparing assessment observation sheets related to students ' math learning interests. Develop teacher and student interview guidelines for response to media-based Flash professional Macromedia
2. Implementation, At this stage, the action done is to use a media learning-based Macromedia Flash Professional 8. In this study, teaching was a teacher of mathematics class VIII B. While researchers acted as observers. An outline of the actions performed are as follows:
   The teacher conveys or informs the competencies that must be achieved in his studies. The teacher explains the material to be studied. Teachers are giving more complex problems to student's goals to deepen students understanding of the material they are learning. Teachers check the solutions students have obtained to straighten the concepts of the material being taught. The teacher guides students to conclude the most correct and correct way and answer. Teachers, along with students, make conclusions from the materials that have been studied.
3. The observer conducted observation Observations during the learning process in class VIII B. Observation activities are conducted to know the things that occur during learning activities that include teacher activities, student learning interests, and the constraints that Students during the learning process. Each cycle is given a test of students ' interest in working on the questions in the form of multiple choices performed individually.

4. Reflecting, At this stage, the teacher along with the researchers analyzed the results of observations gained on the observation, which is the result of observing the students ' mathematical interest in learning activities and then discussing, evaluating, and considering whether action and formulated the planning of actions to be performed in the next cycle. This reflection will be used to plan II cycle action and the deficiency in cycle I will be corrected in cycle II.

After the first cycle, finish then proceed to cycle II. This step follows the working stage on the I cycle. The plan of action is based on the results of reflections on the First cycle. Activities undertaken in the II cycle are intended as improvements and enhancements to the use of learning media Based on Macromedia Flash Professional 8.

1. Planing: At this stage, re-planned learning action refers to the first cycle's outcome to fix the deficiencies and maintain and enhance the success achieved in the first cycle.
2. Implementation, The implementation of the action on cycle II is not much different from the action on the first cycle, only a few revisions based on the reflection on the First cycle to further enhance the students ' mathematical learning interest.
3. Observation, At this stage, is equal to the stage I cycle. Only at this stage is more emphasized in the observation of the process of learning mathematics by using a learning media based on Macromedia Flash Professional 8.
4. Reflection, At this stage, researchers cooperate with mathematics teacher Class VIII B SMP Muhammadiyah 1 Yogyakarta Evaluate the actions that have been done and formulated conclusions and learning through the media learning Macromedia based Flash Professional 8. The results of this reflection will be used to know how much increased interest in students mathematics. If there is no increasing interest in student mathematics, then the research activity continues in the next cycle. However, in case of increasing interest in student's math learning at least 61.00%, the research activity was discontinued.

The data collection techniques in this study are by using observation methods, test methods, interview methods, and triangulation. The data collection instruments used in this study are observation sheets and daily replay tests. Two observation sheets are observations of students ' mathematical interests and teacher activity.

Analysis of data on observation results. Data is analyzed descriptively and analyzed using the following percentage formula:

$$P = \frac{nm}{N} \times 100\%$$

Description:

P: Percentage of learning interest students mathematics

nm: Number of items in the list

N: Number of all items

Repeated test results are analyzed as follows:

a. Determine the test scores of each student
b. Calculate the average of its class, with the formula:

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

Description:

$\bar{X}$: Mean value

$\sum X$: The sum of all student grades

$\sum N$: Total students

RESULTS AND DISCUSSION

Table 2. Results of students interest in learning mathematics

Indicator	Cycle I (%)	Cycle II (%)
Attraction	52,08	61,00
Involvement	51,04	57,88
Attention	52,60	60,94
Feeling happy	64,58	70,14

In this first cycle, students' interest in participating in learning mathematics is still insufficient criteria because students still look rowdy during the learning process, and in working on exercises and tests, students are not spontaneously working. However, students must be guided by the teacher to want to do. However, in the second cycle, students' interest increased to be good. Noisy students who have started to decrease and students begin to want to do the problems.

The involvement of students in the process of learning mathematics in the first cycle is still within the criteria of sufficient interest. This is because students are still reluctant to ask the teacher or researcher if they have difficulty understanding the material presented and when working on questions. However, in cycle II the involvement of students increased even though it was included in the criteria of sufficient interest. Students have started to want to ask the teacher or researcher if they have difficulty in working on problems.

The attention of students in participating in learning mathematics in the first cycle is included in the criteria of sufficient interest. When the teacher explains the material, students pay less attention to the teacher's explanation, and students are less focused during the learning process. Students cannot concentrate because they are annoyed with rowdy friends. In cycle II, students' attention began to increase, but still within the criteria of sufficient interest. Students begin to pay attention to the teacher's explanation. Students begin to concentrate on the learning process because rowdy students begin to decrease so that students do not feel disturbed.

The students feeling of pleasure in participating in learning mathematics in the first cycle is included in both criteria. Class VIII B students are ICT classes, so they feel happier when the learning process uses learning media based on Macromedia flash professional eight related to technology. In cycle II the students' feeling of pleasure in participating in learning is increasing.

In this study, researchers gave test questions at the end of each cycle I and cycle II to students to find out the improvement in learning outcomes after participating in mathematics learning using Macromedia flash professional learning media 8. The average value of the test results in each cycle increased. In the first cycle, the average grade of the class is 71.25, with 11 students who complete as many as 11. In the second cycle, the average value of the class has increased by 77.08, with 15 students who completed it. While the percentage of completeness in the first cycle is 45.83% and experienced an increase in cycle II, which was 62.5%. The results of repetition in cycle I and cycle II can be seen in the following table 3:

Table 3. Daily results

Results of Repetition	**Cycle I**	**Cycle II**
Highest Score	90	100
Lowest Score	50	50
Mean Class	71,25	77,08
Completed students	11	15
Percentage of completeness	45,83 %	62,5 %

From the analysis of the results of observations of students' interest in learning mathematics and the results of student tests above, the research objectives have been achieved in the second cycle. The results showed an increase in interest in learning mathematics and an increase in mathematical test results. So the research is considered complete in the second cycle.

Aside from the observation sheet, this study also used interviews with students and mathematics teachers of class VIII B, which was conducted at the end of the second cycle. Based on the interview results obtained, positive responses from students and teachers towards learning mathematics using learning media are based on Macromedia Flash Professional 8. Learning mathematics using learning media based on Macromedia Flash Professional 8 can increase students' interest in learning mathematics.

CONCLUSION

From the results of the study, it can be concluded that learning activities using learning media based on Macromedia flash professional eight can increase the interest in learning mathematics for students of class VIII B of Muhammadiyah 1 Yogyakarta Junior High School on cube and rectangular prism material. This can be seen from the results of the observation sheet of students' interest in learning mathematics and the results of tests in each cycle that has increased. The following is the conclusion data obtained:

1. Based on the results of observations using an observation sheet of mathematics learning, students gained the results that there is an increased interest in learning mathematics students in the learning process. The average percentage of learning interest in student mathematics at Cycle I is 55.06% with sufficient criteria and increased in cycle II to 62.49% with good criteria.
2. Based on the repeated results that have been done on each cycle, obtained the result that there is an increase in student mathematics learning results on the materials of cubes and rectangular prism. The average student mathematics learning results in cycle I is 71.25 and experienced an increase in cycle II to 77.08.

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