

The Eford of Improving Mathematics Learning Outcome on Quadrilateral and Triangle Matter by Using Gradually Exsercise Strategy with The Assistance of Image Media

Ady Putra

Univesitas Negeri Medan
Medan, Indonesia

E-mail: ady.putra.ritonga@gmail.com

KMS. Muhammad Amin Fauzi, Yulita Moliq

Univesitas Negeri Medan
Medan, Indonesia

Abstract—The purpose of this research to improve students' mathematics learning outcomes in rectangular and triangular matters by using gradually training strategy and with the assistance of image media in class VII of islamic junior high school Cerdas Murni Tembung. This research was a classroom action research with the subject of the research was the students of class VII islamic junior high school Cerdas Murni Tembung as many as 40 students, consisting of 20 male and 20 female students. This research was conducted in 2 cycles in four meetings, consisting of four stages: planning, action, observation, and reflection. To measure students' abilities, researchers used observation sheets of student activities, pretest and post test questions in multiple choice type which had been given to all students. Based on the pretest result, the percentage of classical learning was 7.5% (3 students). After being given a teaching action by using a gradually training strategy and with the assistance of image media obtained the percentage of completeness in cycle I was 42.5% (17 students) and in cycle II the completeness percentage level became 87.5% (35 students). Based on the results of this research, it might be concluded that learning by using gradually training strategy with the assistance of image media improved the results of mathematics learning on quadrilateral and triangle matter.

Keywords—gradually exercises learning, image media, learning outcomes, mathematics

I. INTRODUCTION

Education plays a very important role in improving the quality of Human Resources. Schools as a means of formal education should have a program in exploring the potential of students themselves for the purpose of education can be achieved. Teachers as an important element in the education system in charge of directing student learning activities in order to achieve learning objectives, in order to improve the quality and quality of students. In mathematics learning a teacher is expected to create the right service to ability,

potency, interest, talent, and requirement of student about math which is very diverse in order to happen optimal interaction between teacher (tes, 2018) with student and student with student in studying the mathematics. Therefore it is very necessary learning strategies that can make teachers and students become more active. Based on the observation in islamic junior high school Cerdas Murni Tembung found the result of study result of student of class VII especially in math lesson still low. And from the result of pre test data, it was found that 37 students from 40 students did not reach the index of 65 points. A learning process can be said to succeed if: a) the absorptive capacity of teaching materials that are taught to achieve high achievement, either individually or in groups, b) the behavior outlined in the specific teaching / instructional objectives has been achieved by students, individually or in groups [1].

Constructivistic theory developed by Piaget, argues that basically individuals since childhood already have the ability to construct their own knowledge, through the process of assimilation and accommodation of existing schemes. Scheme is a cognitive structure that is formed through the process of experience. Assimilation is the process of refining the scheme that has been established, and accommodation is the process of schema change [2]. It is necessary to improve learning schemes that can improve learning in the classroom. Therefore researchers conduct classroom action research (PTK). Through the PTK the problems of education and learning can be studied, improved and completed, so that innovative education and learning processes and better learning outcomes can be realized systematically. One of the schemes applied by researchers in this case is the use of tiered training strategies with the help of image media. Strategy of tiered training is a series or arrangement of learning activities by giving or explaining the material and followed by

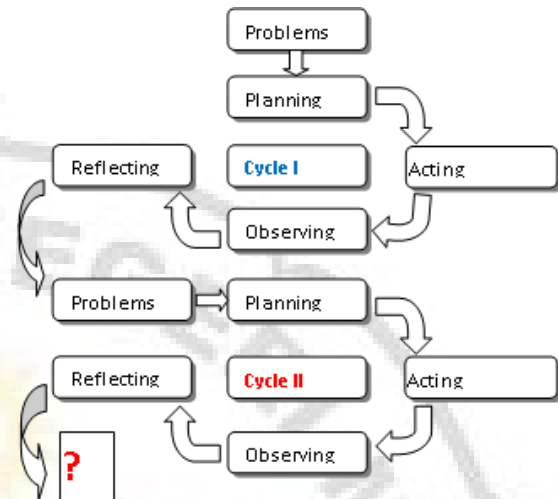
providing structured and systematic exercises on what students have learned so as to acquire a skill by giving practice questions to students starting from the problem of easy to the problem - that is more difficult with teacher guidance. Students practice to imitate the modeling done by the teacher by being guided step by step so that it can solve the problems. This exercise can be aimed at understanding and applying the theories he or she studies. Exercise will mean that learners are informed of their mistakes. During the practice the learners should be accompanied and mentored. In the guidance of teachers pay attention to learning outcomes and learning process learners. To acquire skills in completing math problems requires repetitive and tiered exercises, the goal is that students are able to understand the level of the problem, ranging from the easiest to the most difficult. The purpose of this study are: 1). To improve the result of learning mathematics with Strategy of Tiered Training with support of image media can 2). To find out student learning outcomes after applying the Tiered Training Strategy with the support of image media.

II. METHOD

This research was conducted at Islamic junior high school Cerdas Murni Tembung Deli Serdang in Grade VII of Second Semester of Lesson 2014/2015. The subjects of this study were 40 students consisting of 20 male students and 20 female students. This research uses classroom action research method. This research has a cycle activity. Each cycle is implemented in accordance with the changes to be achieved, the cycle consists of 1) planning; 2) acting; 3) observing; and 4) reflecting. The relationship between the four components shows a cycle or repetitive activity. This cycle is one of the main characteristics of classroom action research, namely that action research should be carried out in the form of cycles rather than just one intervention course.

Instrument of data collection used in this research is test result of learning. The test is a method (which may be used) or a procedure (which needs to be taken) in the framework of measurement and assessment in the field of education, in the form of assignment or a series of tasks (either in the form of questions to be answered), or orders (to be done) by the teste, so that (on the basis of data obtained from the measurement results) can produce values that can symbolize behavior; which values can be compared with the values achieved by other testes, or compared with certain standard values [3]

This type of research is able to offer new ways and procedures to improve and improve the professionalism of teachers in the learning process. By doing research the actions of teachers can improve learning to be more effective. The PTK flow is adapted from Suharsimi arikunto [4].



Before the first cycle begins, the researcher prepares the test instrument, instructional media, media validation, spatial plan. The researchers made pre-test and post-test instruments. Pre-test aims to obtain preliminary data on student achievement. Post-test is given for each end of the cycle to determine the improvement of learning achievement after action.

III. DISCUSSION

Researchers conducted a pre test on 40 students of class VII at the beginning of the meeting to map the students' initial ability

NO.	Value of mastery	Extent	Many Students	Percentage of Number of Students
1	< 65	Not complete	37	92,5%
2	≥ 65	Complete	3	7,5%
Jumlah			40	100%

From the results of pre test only 3 students who achieve the value of mastery ≥ 65 and 37 others are not complete. The percentage of classical absorbency value obtained is 7.5%, the percentage of classical absorption is not yet complete, with the average grade obtained is 43.33 because the percentage of classical absorbency value has not reached 85%.

From the problems that have been found, researchers create a learning plan that improves the results of learning mathematics through a strategy of tiered training with the support of image media in class VII Islamic junior high school Cerdas Murni Tembung and after done post test found the data as follows:

NO.	Value of mastery	Extent	Many Students	Percentage of Number of Students
1	< 65	Not complete	23	42,5%
2	≥ 65	complete	17	57,5%
Jumlah			40	100%

There is an increase in the percentage of completeness but has not reached classical completeness of 85%, In this cycle I obtained the average value is 60.33. Then performed improvements in cycle II, especially in terms of pedagogic and time efficiency in the use of power point media.

After done cycle II then found the data as follows:

NO	Value of mastery	Extent	Many Students	Percentage of Number of Students
1	< 65	Not complete	35	87,5%
2	≥ 65	complete	5	12,5%
Jumlah			40	100%

Based on the above table it can be seen that 35 students have achieved the value of ≥ 65 in learning completeness, while 5 students still not complete. The percentage of classical absorption obtained by students who have completed is 87.5%. In this second cycle, the average score is 69.33, with the average value of student learning outcomes so that there is no need to improve learning again because there is an increase in the results student learning compared to cycle I.

IV. CONCLUSION

Based on research conducted in class VII-2 islamic junior high school Cerdas Murni Tembung Conccent can be summarized as follows: 1). The application of tiered training strategy with the support of image media can improve the learning outcomes of mathematics on the subject of quadrilateral and triangle in class VII-2 islamic junior high school Cerdas Murni Tembung. This is based on the average teacher observation (44.5) and average student observation (36.5) in cycle I. And in cycle II the average teacher observation (45) and average student observation (45) . 2). Implementation of learning strategy with image media support can improve students' mathematics learning outcomes on triangle material and rectangle seen from the result of student learning in classical that is from 40 students there are 17 students (57,5%) which have complete study and there are 23 students (42,5 %) that is not completed in the first cycle to 35 students (87.5%) who have completed the study and there are 5 students (12.5%) that is not complete in cycle II.

There are advantages of this research as follows: 1) Provide an opportunity for all students to express their opinions about what the teacher asked. 2). Train more students in solving more problems and tiered. 3). Students pay more attention when teachers explain with the support of image media, because in learning students usually only listen to teachers without using the media.

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