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IMPROVING STUDENTS' LEARNING OUTCOMES IN MATHEMATICS THROUGH THE CTL APPROACH IN CLASS VII SMP NEGERI 8 GORONTALO

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ABSTRACT
To solve the problems that have been formulated by researchers using the CTL (Contextual teaching and Learning) learning model in Mathematics in class VII SMP Negeri 8 Gorontalo" in order to increase student activity and learning outcomes, researchers choose alternative problem solving using the CTL (Contextual teaching and learning) include: 1. (Constructivism) Developing students' thinking to carry out more meaningful learning activities whether by working alone, finding themselves, and constructing new knowledge and skills they have. 2. (Questioning) Develop students' curiosity by raising questions. 3. (Learning community) Creating a learning community, such as through group discussion activities, question and answer, and so on. According to researchers, using CTL (Contextual Teaching and Learning) can increase student learning activities and outcomes.

Keywords: Contextual teaching and Learning

INTRODUCTION

National Education is education based on Pancasila and the 1945 Constitution of the Republic of Indonesia rooted in religious values, Indonesian national culture, responsive to the demands of changing times. In the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, stated in CHAPTER I article 1 states "Education is a planned conscious effort to create a learning atmosphere, a learning process so that students actively develop their potential to have religious spiritual strength, control self, personality, intelligence, noble character, and skills needed by himself, society, nation and state, also emphasized in Government Regulation Number 19 of 2005 Article 1 concerning National Education Standards emphasizes that "The learning process in educational units is carried out in an interactive, inspiring, fun, challenging, results for students to participate actively, as well as providing sufficient space for initiative, creativity and independence in accordance with the talents, interests and physical and psychological development of students." student performance through the CTL (Contextual Teaching and Learning) learning model.

So in this case, the function and role of the teacher is only as a mediator, students are more proactive in formulating their own about phenomena related to the focus of contextual rather than textual studies. Understanding when carrying out learning activities, in fact so far Mathematics learning still emphasizes concepts that only exist in books and does not take advantage of the environment and other learning resources that are around.

Based on the data that the researchers obtained from the results of observing the problems, it was seen that the scores obtained by students in Mathematics subject matter of the environment (reading) were very low. This was proven by the fact that the results of learning Mathematics from a total of 32 Class VII students at SMP Negeri 8 Gorontalo, only 12 students had the ability to master Mathematics subject

matter, which meant that only 43% achieved scores above the KKM, while 20 other students still in the slow category, which means that 57% of the score is below the KKM that needs to be given guidance. Qualitatively students are considered successful if they have mastered the content of the material that has been delivered by the teacher.

As in learning Mathematics. Based on the thoughts above, it can be identified that there are main problems that must be solved by researchers who do in Class VII at SMP Negeri 8 Gorontalo how to improve student learning outcomes. environment and other learning resources that are around, this is what allows students to be less active and successful and do not understand the material presented so that student learning outcomes are unsatisfactory. By applying the CTL (Contextual Teaching and Learning) approach in this study. it is very important to improve student learning outcomes where students will be more active, more confident and enthusiastic about something rather than just receiving from teachers and books, enriching knowledge, developing scientific attitudes and learning outcomes will last longer in students' memories.

KTSP for Mathematics learning about CTL (Contextual Teaching and Learning) is focused on the natural environment and the built environment in general, the learning difficulties of Class VII students at SMP Negeri 8 Gorontalo. On certain subjects, there is a lack of learning activities in the form of media or visual aids that can increase students' understanding of natural and artificial environment learning. As an alternative to reduce students' difficulties in learning Mathematics. So for this reason the author made a PTK entitled Improving Student Activities and Learning Outcomes in Mathematics through the CTL approach in Class VII of SMP Negeri 8 Gorontalo."

THEORETICAL STUDY

Definition of Learning

Outcomes Learning is a change in one's behavior. By learning, a person can gain knowledge or skills to achieve goals. Changes in behavior can be obtained from one's own experience or interaction with the environment. By learning, you can see changes in behavior that are better for a person to achieve the desired goals. Learning has a very complex definition including Sunaryo (1989:1) explaining that learning is an activity, where a person makes or produces a change in behavior that is in him in knowledge, attitudes, and skills. Of course, this behavior is positive behavior which means to seek the perfection of life.

Furthermore Nana Sudjana (1996:5) reveals learning is a process marked by a change in a person. Changes as a result of the learning process can be shown in various forms such as changes in knowledge, understanding, attitudes, behavior, skills, abilities, habits, and changes in other aspects of the individual who is learning. As expressed by Mouly in Nana Sudjana (1996: 5) learning is essentially a process of changing one's behavior due to practice. Meanwhile, Garry and Kingsley stated that learning is a process of changing original behavior through experience and exercises. From some of the opinions above it can be concluded that learning is a process of changing one's behavior intentionally to gain experience and training in terms of knowledge, skills, attitudes, understanding, behavior in order to achieve the expected goals.

Thus students are able to use critical thinking besides that students are able to apply their knowledge in daily practice. The process and learning outcomes in outline are influenced by two factors, namely factors originating from individuals who learn (internal factors) and factors originating from the

environment or external factors (Suprijono, 2011).

According to Gagne (in Ahmad Sudrajat, 2008) behavioral changes in learning outcomes can take the form of: a. verbal information; namely the mastery of information in verbal, both in writing and orally. b. Intellectual prowess; namely individual skills in interacting with the environment by using symbols. Included in intellectual skills is the ability to differentiate, understand concrete concepts, abstract concepts, legal rules. Student Learning Activities Montessori in Sadirman A.M, (1994:95) emphasized that "children have the power to develop themselves, form themselves. Educators will act as mentors and observe how the development of their students.

Mentessori's statement provides guidance that it is the child himself who carries out more activities in the formation of the child himself, while the teacher only provides guidance and plans all activities that will be carried out by students. Another opinion put forward by Rousseau in Sadirman A.M, (1994:95) provides an explanation that "All knowledge learning activities must be obtained from his own observations, own experiences, own investigations, both spiritually and technically".

This shows that everyone who works must be active on their own, without activity the learning process is not possible. From the several opinions above, it can be concluded that student learning activities are learning activities carried out by students by observing themselves, experiencing themselves, investigating themselves, and working actively with facilities that are created to develop on their own with guidance and observation from the teacher. The teacher must try to arouse student activity in receiving lessons, both physical and spiritual activities. Physical activity includes: conducting experiments, gardening and others. Student learning activities are not enough just to listen and take notes. There are many types of learning activities that students can do at school.

Paul B. Deirich in Sadirman A.M, (1994:99) argues that: Student learning activities in this study were: students asked if there was anything that was lacking to the teacher, students answered questions asked by the teacher, students paid attention during class activities, students paid attention during group presentations, students listened to the teacher's explanation, students listened to explanations from friends , students write answers to questions on the blackboard without being pointed at, students give ideas or ideas to solve problems given by the teacher, students give ideas or ideas in group discussions. To determine the level of student learning activity, two ways were used to filter data, namely: by filling out a questionnaire (the questionnaire used was in the form of closed questions and consisted of 20 questions) and observation in learning.

A person's behavior generally shows a person's tendency in something. Therefore, the teacher can make observations of the students he fosters. Observations can be used as feedback in coaching, observing behavior at school can be done by using a special notebook about events related to students while at school. The scale used to measure learning activity is an interval scale. The level of student learning activity is classified into 2 categories, namely high learning activity and learning activity that was measured before the research was conducted.

CTL Learning Model (Contextual Teaching and Learning) Learning models that do not vary result in students being less active, causing boredom of students in participating in teaching and learning activities. In the CTL (Contextual Teaching and Learning) learning model, it is a meaningful learning activity because students work together as a team to solve a problem, compete, and discuss. If the learning process using the CTL (Contextual Teaching and Learning) learning model is more effective, it can create student interaction so that it can lead to an increase in slow student learning outcomes and

stimulate learning creativity for creative students. Develop students' thinking so that learning is more meaningful by doing learning outside the classroom. Students are given group assignments to identify objects around that are in accordance with the material then solve problems in groups. At the end of the activity, reflect on the problems encountered in the previous task. Do a post test to find out students' understanding of the material they just learned. (Rusman, 2011).

METHOD

Class action research (CAR) was conducted at SMP Negeri 8 Gorontalo. The class that was subjected to the action was class VII with a total of 32 students, consisting of 19 male students and 13 female students. This class was chosen as the action class because it is based on initial conditions and is a class whose learning outcomes are still low, due to the lack of repetition of studying at home.

Cycle I The implementation of this research was carried out by the researchers themselves using an approach in learning, namely through a concept map learning strategy. In cycle I it is carried out in accordance with the lesson plan (RPP) that has been prepared with a time allocation of 2 hours (2 x 45 minutes). The stages of activities in the implementation of cycle I actions using the CTL (Contextual Teaching and Learning) strategy are as follows: a. Preliminary activities. In this preliminary activity, the teacher says greetings, checks student attendance, provides motivation and apperception.

This is intended to explore students' prior knowledge of the material to be studied. Next, the teacher writes down the topic of the material to be studied as well as conveys the indicators and learning objectives to be achieved. b. Core Activities. In this core activity, the teacher carries out the stages of the activity, namely the concept map learning strategy with the following steps: 1) Exploration a) The teacher prepares learning resources and media to develop students' thinking by being able to build their own knowledge, then shows examples taken from the surrounding natural environment. b) The teacher divides students into several groups to make observations, one group consists of 4-6. c) The teacher guides students to observe the surrounding natural environment. d) Students make observations in the surrounding natural environment, the place is determined by the teacher. e) The teacher helps students who have difficulty making observations. f) The teacher conducts questions and answers to develop students' curiosity g) The teacher explains about Mathematics material. h) Through pictures students can identify examples of learning Mathematics. 2) Elaboration a) The teacher groups students heterogeneously by guiding discussions in class. b) Students are given student worksheets according to their groups which are distributed by the teacher then carry out discussions with group members. c) Representatives from each group to present the final report. d) The teacher guides students to present the results of the discussion. e) Students from other groups respond to the results of the discussions presented. 3) Confirm a) Doing questions and answers about material that students have not understood. b) Together with students conclude the subject matter. c. Closing Activities In this closing activity the teacher provides feedback on the process and learning outcomes, the teacher together with the students concludes the material, gives evaluation tests and gives closing greetings.

RESEARCH RESULTS AND DISCUSSION

A. Research Results

This study aims to improve learning outcomes and see student retention using a concept map strategy. The research data was obtained from the test technique used to measure the increase in

student learning outcomes and see a decrease in retention. Retrieval of research data and learning outcomes of biology using observation sheets of teacher activities and observation sheets of student activities during the learning process takes place, as well as evaluation at the end of each cycle, while to see the percentage decrease in retention and the percentage of retention scores, the test is carried out again 2 weeks after the posttest using questions that The same. In addition, research data were obtained from two cycles, namely cycle 1 with 2 meetings and cycle 2 with 2 meetings. The results of the research in the form of a description of the implementation of the action, a description of the data, hypothesis testing, and discussion can be broken down as follows: This first meeting begins with introductions between students and the teacher, as well as providing a brief explanation of the material to be studied.

Furthermore, teachers and students carry out the teaching and learning process according to the rules of the CTL (Contextual Teaching and Learning) approach. Before students are divided into groups, the teacher first models learning strategies using CTL (Contextual Teaching and Learning) steps. Then students are divided into heterogeneous groups, each group consisting of 4-6 people. The groups that have been formed send their group leaders to pick up some examples of readings used during group discussions.

The time given by the teacher at the time of making to do the task is 20 minutes. During that time students actively discussed in their respective groups, then students would present the results of their group discussions in front of the class according to the group that had their turn when drawn.

In Cycle 1 meeting 1, there should have been 2 groups taking the numbers that had been drawn, but with limited time, the group that interpreted the results of the group discussion was group 2. The results of observations in the environment around the school and homes of each group still had deficiencies, namely: lack of conceptual understanding of subjects related to mathematics. Learning activities at this second meeting, began with a question and answer about things that were not understood at the previous meeting. As was the case with meeting 1, the teacher and students carried out the teaching and learning process according to CTL (Contextual Teaching and Learning) rules. Before starting the discussion in each group, the teacher first models the CTL (Contextual Teaching and Learning) steps. Then the students who had been divided into groups at the first meeting began to join their group members. The group leader picks up pictures that are used during group discussions presenting material about the benefits of mathematics in everyday life.

Based on the results of the observational analysis of teacher and student activity observation sheets in Cycle I which were carried out for two meetings, it was quite good, but there were still several aspects that had not been carried out in the learning process using concept maps. Then, the evaluation of student learning outcomes in cycle I has not reached the expected success criteria. As for aspects that have not been implemented on the observation sheet of teacher activities can be seen as follows: a. The teacher, when explaining the material, does not associate the material being studied with relevant knowledge. b. The teacher does not monitor each student's activities. c. The teacher does not call groups that present according to the lottery results. Aspects that have not been implemented on the observation sheet of student activities can be seen as follows: a. Students do not record the learning objectives conveyed by the teacher b. Students do not make small notes on material that is considered important c. Students do not pay attention to the tasks delivered by the teacher activities that have been implemented consistently and programmed (reflection).

Cycle II Based on the reflection results from cycle I, deficiencies were still found, so they will be

corrected in cycle II, both in teacher and student activities during teaching and learning activities. In cycle II it is carried out in accordance with the lesson plan (RPP) that has been prepared with a time allocation of 2 hours (2 x 40 minutes).

The stages of activities in the implementation of cycle II actions using the CTL (Contextual Teaching and Learning) approach are as follows: a. Preliminary activities, the teacher says greetings, checks student attendance, provides motivation and apperception. This is intended to explore students' prior knowledge of the material to be studied. Next, the teacher writes down the topic of the material to be studied as well as conveys the indicators and learning objectives to be achieved. b. Core activities, the teacher carries out the activity stages, namely the CTL approach (Contextual teaching and learning) with the following steps: 1) Students pay attention to the teacher conveying an overview of the material to be studied. 2) Students pay attention to the teacher modeling using observation steps, using the material to be studied (modeling). a) Choose the existing pictures, b) Determine the pictures to be observed, 3) The teacher distributes LKS to each group. 4) Students under the guidance of the teacher, use the steps to observe pictures working on student worksheets (observation). 5) After completing observing the pictures of all students, generative learning is carried out, in which students actively present the results of observations made to their friends in class alternately. 6) The teacher directs the conversation to the subject matter and re-explains material that is not clear to the students. 7) The teacher conducts questions and answers about things that are not yet known to students (questioning). 8) Conduct an assessment or reflection on the evaluation test and give closing greetings. The material that will be discussed at this meeting is the benefits of the natural environment and the built environment which begins with a question and answer on matters related to today's material. Next, the teacher gives a brief explanation of the material to be studied. Similar to the previous meeting, the teacher and students carried out the teaching and learning process according to the rules.

B. Discussion

From the test results in the initial conditions the average student score was 61.54, after the implementation of Cycle I the average student score became 73.84 that there was an increase between the initial conditions and Cycle I but there were still students who had not completed it so that it was not in accordance with the target which are expected. From the results of Cycle I, improvements were made in Cycle II, the average student score was 78.90.

That there is an increase in cycle I to cycle II and all students complete. From the results of observations during the process of implementing the action, it can be seen that there are developments in a better direction in increasing the active role in the learning process, which is related to teacher activity and student activity as a whole.

From the results of observing the teacher's activities in the implementation of the actions of Cycle I and Cycle II it was clear that there was a positive development. In the first cycle of teacher activity with a score of 75, while in the second cycle with an average score of 80, thus the activity in teacher learning has increased activity with the achievement of a score of 80. From the results of observations of student activity in the implementation of the actions of Cycle I and Cycle II shows a better increase in student activity. In the first cycle of student activity the score was 60 while in the second cycle the score reached 75. Thus, the student activity in learning has increased with the achievement of a value of 75.

With an increase in activity in learning both related to student activity and teacher activity it is

hoped that it can provide better motivation which can bring positive changes to improving learning processes and outcomes. From the research results and student grades, all of which have completed the KKM above, prove that using the CTL (Contextual Teaching and Learning) model can increase student activity and learning outcomes in Class VII SMP Negeri 8 Gorontalo.

CONCLUSION

Based on the results of data processing about learning using the CTL (Contextual teaching and Learning) Model and without using the CTL (Contextual teaching and Learning) Model on the activities and learning outcomes of Mathematics at SMP Negeri 8 Gorontalo it can be concluded as follows: 1. By using the CTL (Contextual Teaching and Learning) approach, especially through constructivism, quistioning, learning community there is an increase in student learning activities, 2. By using the CTL (Contextual Teaching and Learning) approach, especially through constructivism, quistioning, learning community there is an increase in student learning outcomes, At the end of this discussion, suggestions are made that may be of great benefit in our efforts to improve the quality of education.

Starting from the discussion above, the suggestions that the author proposes are: To Teacher: a. In order to choose complete learning media in accordance with the topics discussed in the teaching and learning process. b. Provide motivation to students to have a good way of learning

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