THE USE OF 3D PROPS TO INCREASE STUDENT’S LEARNING ACHIEVEMENT GEOMETRY IN 5TH ELEMENTARY SCHOOL 8 JAGONG JEGET

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ABSTRACT

The research is intended to increase student’s learning achievement in 5th grade students’ writing in one of the elementary schools in Banda Aceh. The objectives of this study were: to increase student’s learning achievement Geometry in 5th grade Elementary School 8 Jagong Jeget. The results of 3D Props the use are 1) the average score of the learning achievement test of the concept of building the 5th grade Elementary School 8 Jagong Jeget reaches ≥ 80. The average value obtained from cycle I to cycle II increased by 23.83 from 60.33 in cycle I to 84.16 on cycle II 2) The average percentage of students' average learning mastery of grade 5th grade Elementary School 8 Jagong Jeget in learning the concept of building space through the use of props reaches ≥ 80%. The average percentage of learning mastery obtained from cycle I to cycle II increased by 60.33% from 28% in cycle I to 88.33% in cycle II. 3) Percentage of teacher activity and 5th grade Elementary School 8 Jagong Jeget in learning to build space through the use of props also increased from cycle I to cycle II. The average percentage of teacher activity in cycle I to cycle II increased by 18.21% from 75.31% in the first cycle to 93.52% in cycle II. The average percentage of student activity in cycle I to cycle II increased by 20.12% ie 65.47% in cycle I to 85.59% in cycle II.

Keywords: 3D Props, Learning Achievement, Geometry, Elementary School.

INTRODUCTION

In essence education can not be separated from human life. Without human education it will be useless and independent (S. Nasution: 1995). Education has an enormous influence on human life in the future. Human education can be developed with various potentials to the maximum.
Education can be obtained through formal, informal and non-formal education institutions. Formal education is pursued in schools ranging from primary education, secondary education to higher education (Undang-Undang No.2 tahun 1989).

Teachers are one of the important aspects in the implementation of education. Teacher's job in teaching is facilitator (Senjaya: 2008). In this case, the students themselves actively construct knowledge by observing, searching, and discovering and generalizing the concepts taught. In order to face the changing paradigm of learning from traditional learning to constructivist learning, it is necessary to have visual aids. With student props more deeply explore based on facts that clearly can be seen, so that students more easily understand and understand especially when learning geometry wake up space.

To study Geometry, required readiness of students in receiving lessons, namely the intellectual maturity and learning experience that has been owned by students so that learning outcomes are more meaningful for students. Through the use of teaching aids in learning, students will get a meaningful learning experience through the exploration of concrete objects so that student activity in learning can be kept away from the passive impression but the students will be active, ie with the ability to learn through the exploration of such concrete objects (Post, 1981).

The learning process takes place naturally in the form of work activities of students and experiencing, not just the transfer from teacher to student so that learning is more concerned with process than result. Through such learning, the learning experience that students get will be kept in mind by the students so that they can survive in their knowledge structure. In addition, learning that uses concrete objects such as visual aids, can facilitate the teacher in delivering the material and students are also easy to receive the material delivered (Cole, 2008).

The use of props is inseparable from the role of the teacher. It is the master who designs, chooses, and uses props. Therefore, the teacher's understanding of the proper use of visual aids is very important so that students can easily understand the concepts constructed by the students themselves through the visual aids and can develop them to solve daily life problems in accordance with the concept.

Based on observations made by researchers at pre-research in 5th grade elementary School 8 Jagong Jeget in Geometry learning, the problem
generally faced by 9 out of 12 students of 5th grade elementary School 8 Jagong Jeget that students are still difficulty in understanding the concept of waking space. This is because the teacher has not used props in conveying materials about the concept of waking up only introduces the forms of building space to students by describing it on the board or just through the image of building space in the book package without using props, the material is actually a topic Appeals to students but in practice teachers provide less precise learning.

A total of 9 out of 12 students of 5th grade elementary School 8 Jagong Jeget are still wrong in determining how many sides, ribs, and angular spots of space (beams, cubes, prisms, pyramids, tubes, and cones). They are able to answer questions correctly about the number of sides, ribs, and vertices only on cubes and blocks. The rest, some students try to guess the answer, this problem indicates the low understanding of the students about the concept of space wake caused by the delivery of material from teacher to student does not use props.

Seeing the fact that researchers want to try and apply the use of props in learning Geometry Build Space, especially about the concept of waking space. With these props, students are expected to be actively involved in finding and finding their own wake up concept and ultimately the students can discover the properties of the wake up space.

Thus learning about the concept of waking up the space will be more meaningful and make students more understanding. Understanding the concept of building space will be more durable in the memory or minds of students, so it is expected the learning achievement of the concept of waking up the classroom of students of 5th grade elementary School 8 Jagong Jeget will increase it.

METHODS

This type of research is Classroom Action Research. Action research aims to contribute both to the practical concerns of people in an immediateproblematic situation and to further the goals of social science simultaneously. Thus, there is a dual commitment in action research to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction. Accomplishing this twin goal requires the active collaboration of researcher and client, and thus it stresses the importance of co-learning as a primary aspect of the researchprocess” (Gelmore et. al., 1986) AR is a formative
study of progress that is simply “Learning by Doing”. Scientifically, it can be described as a systematic inquiry that is collective, collaborative, self-reflective and in detail the steps of classroom action research are Plan, Act, Observe, Reflect (Dan, 1995).

The subject of research is the students involved in the implementation of learning. (Suwardi, 2015: 55). The subjects of this study are students of 5th grade elementary School 8 Jagong Jeget, Central Aceh Regency in the 2nd semester of academic year 2015/2016 The total number of students is 12 students consisting of 4 male students and 8 female students.

RESULTS AND DISCUSSION

The initial phase, a total of 9 out of 12 students of 5th grade elementary School 8 Jagong Jeget still incorrect in mentioning the number of sides, ribs, and angular spots of space (cubes, beams, prisms, pyramids, tubes, and cones). The students' ability to correctly mention the number of sides, ribs and vertices is confined to cubes and blocks. This is an indicator of the low understanding of the students about the concept of space wake caused by the delivery of material from teacher to student does not use props. The highest score of the initial test obtained by students is 70 and the lowest score is 20. The average grade obtained is 50 Completed score is achieved only by 2 of 12 students. If calculated in percentage, the total number of students who complete the study only amounted to 16.66%. It makes a research for increasing achievement.

The research was done 2 cycle. Each cycle is held for 3 meetings. In the first cycle of the first meeting are the properties of cubes and beams, the encounters of both prisms and pyramids, as well as the encounter of the three tubes and cones. The average percentage of teacher activity on the use of 3D props in improving learning achievement Geometry Bangun Ruang in cycle II is 75.31% and Average percentage of student activity of grade V SD N 8 Jagong Jeget on the use of 3D props in improving learning achievement Geometry Build Space in cycle I is 65.20%.

Specially for Data of student achievement test result obtained by using the test instrument in the form of written matter in the form of multiple choice. Problem is 10 points with the score of each item is 10. So, the maximum value obtained is 100 and the minimum value is 10. This data is taken to find out how much the student's progress in the use of 3D props
in improving learning achievement Geometry Build Space. The following is the result of student activity observation during the three meetings in cycle I.

At the first meeting, the highest score obtained by the student is 70 and the lowest score is 30. The mean grade obtained is 58.33. The value of mastery achieved by 4 students. If calculated as a percentage, the total number of completed students studying at this meeting is 33.33%.

At the second meeting, the highest score obtained by the student is 80 and the lowest is 10. The average grade obtained is 59.16. The value of mastery achieved by 4 students. If calculated as a percentage, the total number of completed students studying at this meeting is 33.33%.

At the third meeting, the highest score obtained by the student is 70 and the lowest score is 40. The average score obtained is 59.16. The value of mastery achieved by 3 students. If calculated in percentage, the total number of students who complete the study at this meeting is 25% with the average learning achievement of the concept of student room wake in the first cycle is 58.88 with the average percentage of learning mastery is 28%.

For reflective of cycle I, teacher activity are The image media has not been used to follow up on the understanding of the nature of wake up space, Lack of full guidance, guidance, and motivation of group discussions, Lack of providing wide opportunities to students during group discussions in an effort to maximize and empower props to discover the nature of geometry, Lack of involvement of all groups in class discussions, The lack of reflection on learning with students.

Student activity in reflective of cycle I are Lack of liveliness of cooperation in group discussions, There has been no maximum effort to empower the use of props in the discussion workmanship of student worksheet, The low liveliness of class discussions is because all groups have not been included in the discussion, Students still have difficulty in summarizing the material, especially in determining the similarities and differences between 2 geometry and achievement student are The average score of the learning achievement test of students' geometry obtained in the first cycle is 60.58 and The average percentage of students who complete learning in cycle I is 28%.

From the data, it makes research do to cycle II. In cycle II, Liveliness and enthusiasm of students during class discussions is high because class discussions have involved all groups, Students no longer have
difficulty in working on worksheet. The average percentage of teacher activity in learning the concept of geometry 5th elementary school 8 Jagong Jeget through the use of props in cycle II was 93.52% and also The average value of learning achievement of the concept of student geometry in cycle II is 84.16 with the percentage of the average learning mastery is 88.33%.

The reflective of cycle II for teacher activities are Teachers already use the media drawing wake up space, The teacher has provided full guidance, guidance, and motivation for group discussions, Teachers have provided wide opportunities to students during group discussions in an effort to maximize and empower props to discover the properties of space build, Teachers have involved all the groups in class discussions, Teachers have been doing reflection on learning with students. The reflective of cycle II for student activities are Students have shown the liveliness and enthusiasm of group discussions, Students have demonstrated liveliness and enthusiasm in class discussions because of the involvement of all groups in class discussions, Students have demonstrated liveliness and enthusiasm in class discussions because the involvement of all groups of students has been made easier in summarizing the material, including in determining the similarities and differences between the two geometry. The reflective of cycle II for achievement students are The average score of the achievement test result of the concept of student room wake obtained in cycle II is 84.16, The average score of achievement test result of the concept of student room wake obtained in cycle II is 84.16saThe average percentage of students who complete the learning obtained in cycle II is 88.33%.

CONCLUSION
This research aimed to answer two research questions, which asked about increasing student achievement for 5th student of elementary school 8 Jagong Jeget. It was solved by action research in cycle II. The results are The average score of the learning achievement test of the concept of the classroom geometery of grade 5th elementary school 8 Jagong Jeget reached ≥ 80. The average value obtained in cycle I to cycle II increased by 23.83 from 60.33 in the first cycle to 84.16 on cycle II, The average percentage of mastery learning grade 5th elementary school 8 Jagong Jeget in learning the concept of building space through the use of props reaches ≥ 80%. The average percentage of learning mastery obtained in cycle I to cycle II increased as much as 60.33% ie from 28% in the first cycle to 88.33% in
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REFERENCES


