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INCREASING STUDENT LEARNING OUTCOMES IN THE FIELD OF NATURAL SCIENCE STUDY THROUGH EXPERIMENTAL LEARNING MODEL IN CLASS VI SD NEGERI 004 KEPENUHAN HULU, KEC. KEPENUHAN HULU, KAB. ROKAN ACADEMIC YEAR 2019/2020

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Abstract. Natural Sciences is a branch of science that studies natural phenomena, so Natural Sciences is also taught to elementary school students to improve the quality of the nation's education. The quality of the nation's life is largely determined by the education factor. The role of education is very important to create a smart, peaceful, open and democratic life. Therefore, educational reform must always be carried out to improve the quality of national education (Nurhadi, 2003: 1). Given the importance of Natural Sciences, the effort that must be made is to improve the learning process carried out by teachers by offering a learning approach with learning concepts that encourage teachers to make connections between the material being taught and students' real world situations. It also encourages students to make connections between the knowledge they have and its application in their own lives. One way to do that is by applying the Experimental Learning Model. This Classroom Action Research was conducted in class VI of SD Negeri 004 Kecepatan Hulu, Kecepatan Hulu District, Rokan Hulu Regency. In the 2019/2020 academic year, there were 24 students consisting of 15 male students and 9 female students. The stages in action research are planning, implementation, observation, evaluation, and reflection. The results of teacher observations showed good improvements and changes from the first cycle of the first meeting to the second cycle of the second meeting, namely from 72, 77, 85 to 90. Student learning outcomes also increased from cycle I meeting I to cycle II meeting II, starting from 71, 73, 80 to 86. In learning the field of Natural Sciences, teachers are expected to use a scientific experimental learning model so that students can play an active role in the learning process. By looking at the learning outcomes, of course, it can be developed with a scientific experimental approach in other learning

Keyword : Experimental Methods, Natural Sciences, Classroom Action Research

I. INTRODUCTION

Interest in learning is a form of interest, the desire of students to do things, tasks, exercises, related to learning. With the increasing interest of students in learning, the achievement of learning outcomes will automatically be good. Thus the role of interest becomes very important/dominant with regard to efforts to improve student learning outcomes.

The fact that occurs in learning is often found in things that do not support the achievement of learning outcomes such as the interest or desire of students in learning which is still relatively low, some basic competencies as learning objectives

that have not been able to be achieved in accordance with the minimum completeness criteria standard (KKM). expected and so on, so it is necessary to make efforts or concrete steps to increase interest or motivation to learn in students. Interest in learning is a form of interest, the desire of students to do things, tasks, exercises, related to learning. With the increasing interest of students in learning, the achievement of learning outcomes will automatically be good. Thus the role of interest becomes very important / dominant in relation to efforts to improve student learning outcomes.

Natural Sciences is a branch of science that studies natural phenomena, so this science is also taught to Dadar School students to improve the quality of the nation's education. The quality of the nation's life is largely determined by the education factor. The role of education is very important to create a smart, peaceful, open and democratic life. Therefore, educational reform must always be carried out to improve the quality of national education (Nurhadi, 2003: 1). Humans always develop their knowledge to improve the quality of education. According to Liang Gie (in Elementary School Natural Science Development, 2007: 13), knowledge is basically all information and ideas contained in statements made about a phenomenon/event both scientific, social and individual.

To realize the quality of education in elementary schools must be adjusted to its development. So that students still use a concrete mindset, in the abstract learning process must be helped to become more concrete. This means that the Natural Science learning strategy must be in accordance with the intellectual development / development of the child's level of thinking, so it is hoped that learning Natural Sciences in Elementary Schools is more effective and fun.

Teachers have a difficult task to achieve the goal of national education, namely to improve the quality of Indonesian people as a whole who have faith and fear of God Almighty, have noble character, personality, discipline, hard work, tough, responsible, intelligent, and skilled and physically and mentally healthy. spiritually, must also be able to grow and deepen a sense of love for the homeland, strengthen the spirit of nationalism and a sense of social solidarity. In line with that, national education will be able to realize development humans and build themselves and be responsible for nation building. Ministry of Education and Culture (1999; 10).

Based on the author's experience in the field, the average number

of students who do not have the drive to learn is faced with failure in learning. So that the average value of Natural Science subjects is very low, which only reaches 65. This is because teachers in the teaching and learning process only use the lecture method, without using teaching aids, and the subject matter is not delivered chronologically. Understanding not only makes students involved in academic activities, strategies are also important in determining how far students will learn from a learning activity or how far to absorb the information presented to them. Students who are motivated to learn something will use higher cognitive processes in studying the material, so that students will absorb and precipitate the material better. The important task of the teacher is to plan how the teacher implements strategies that are in accordance with the teaching materials and the needs of students (Ministry of National Education, 2004: 6). For that as a teacher in addition to mastering the material, it is also expected to be able to determine and carry out the presentation of material according to the ability and readiness of the child, so as to produce optimal mastery of the material for students.

Given the importance of Natural Sciences, the effort that must be made is to improve the learning process carried out by teachers by offering a learning approach with learning concepts that encourage teachers to make connections between the material being taught and students' real world situations. It also encourages students to make connections between the knowledge they have and its application in their own lives. One way to do that is by applying the Experimental Learning Model.

Based on the above background, the formulation of the problem and the solution in this study are: "Can the Experimental Learning Model Improve Student Learning Outcomes on Mastery of Thermal Energy Concepts in the Field of Natural Science Studies Class VI SD Negeri 004 Kecepatan Hulu, Kecepatan Hulu District, Kab. Rokan Hulu. Academic Year 2019/2020?" In accordance with the problem formulation described above, the objectives of this study are: "To find out the Experimental Learning Model can Improve Student Learning Outcomes on Mastery of Thermal Energy Concepts in the Field of Natural Science Studies Class VI SD Negeri 004 Kecepatan Hulu, Kecepatan Hulu District, Rokan Hulu Regency. Academic Year 2019/2020.

II. RESEARCH METHODS

According to Roestiyah, the experimental method is a way of teaching,

in which students conduct experiments on something, observe the process and write down the results of the experiment, then the results of the observations are conveyed to the class and evaluated by the teacher. The experimental method according to Djamarah, the experimental method is a way of presenting lessons, in which students experiment by experiencing what they are learning for themselves. In the teaching and learning process with the experimental method, students are given the opportunity to experience it themselves or do it themselves, following a process, observing an object, state or process of something.

According to Schoenherr quoted by Palendeng, the experimental method is an appropriate method for learning science, because the experimental method is able to provide learning conditions that can develop thinking and creative abilities optimally. Students are given the opportunity to develop their own concepts in their cognitive structure, which can then be applied in their lives.

This classroom action research procedure consists of 2 cycles, each of which includes planning, implementing action, observing and reflecting. The implementation is carried out by holding lessons in which in one cycle there are two face-to-face meetings of 2x35 minutes each, according to the learning scenario and the Learning Preparation Plan for students. Each cycle is carried out according to the changes achieved, as designed. To determine the learning achievement of Natural Science students in grade VI SD Negeri 004 Kecepatan Hulu, Kecepatan Hulu District, Rokan Hulu Regency, an observation was made on the learning activities carried out by the teacher. Based on the findings in class, the researchers tried to improve the learning outcomes of natural science students in grade VI by planting concepts through a Contextual Approach and connecting with other concepts that have been mastered by students.

III. RESEARCH RESULT

Cycle I

Meeting 1

1. Planning

Before carrying out repairs to Cycle I, Meeting I, the writer prepares the syllabus. A syllabus is a lesson plan in a particular subject group or theme which includes competency standards, basic competencies, basic materials, learning activities, indicators, assessments, time allocation and sources of learning materials/tools.

After preparing the syllabus, the author's next step is to develop a learning implementation plan including:

a. Determine the number of cycles, namely two cycles, each cycle is carried out two face-to-face meetings.
b. Determine the class that is used as the object of research, namely class VI SD Negeri 004 Kecepatan Hulu, Kepanjangan Hulu District, Rokan Hulu Regency. Develop learning tools, including:
    1) Lesson Plan
    2) Student Worksheet
    3) Designing data collection tools
    4) Assign observers.

2. Implementation

The implementation phase for the first meeting was held on Thursday, September 5, 2019 with an allocation of 2 x 35 minutes. Learning activities are carried out at 09.10 – 10.20 with a total of 24 students. In this case the researcher acts as a teacher, while those who act as observers are fellow researchers. The teaching and learning process refers to the lesson plans that have been prepared.

Observations are carried out simultaneously with the implementation of teaching and learning. The material presented at this first meeting was to explain that heat can be transferred and to explain heat transfer by convection, radiation, and conduction. The teacher and students start learning by praying, then the teacher attends to the students. At the apperception stage, the teacher conditions students to be ready to take part in learning activities. The teacher builds students' knowledge by asking about students' experiences in feeling the heat from the sun.

In exploration activities the teacher divides students into 5 groups, then guides students to prepare the tools that have been brought to conduct heat transfer experiments by convection, radiation, conduction and pay attention to the teacher's explanation of the experimental stages that must be carried out. The teacher helps pour hot water into a place that has been provided as a material for students to do experiments and supervise students steps that are a little dangerous.

The teacher asks each group to discuss and write down the experimental results on the worksheets that have been given. Furthermore, each group representative conveys the conclusions of the experimental results that have been discussed. The activity ended with the students together concluding the learning materials and providing reinforcement about the material that had been studied.

3. Teacher's Observation

Observations are carried out by observing teachers who are carried out by observers

1. Student Pre Test Results

Learning outcomes from the initial conditions of science learning for grade VI students of SD Negeri 004 Kecepatan Hulu, Rokan Hulu Regency can be seen from the following table:

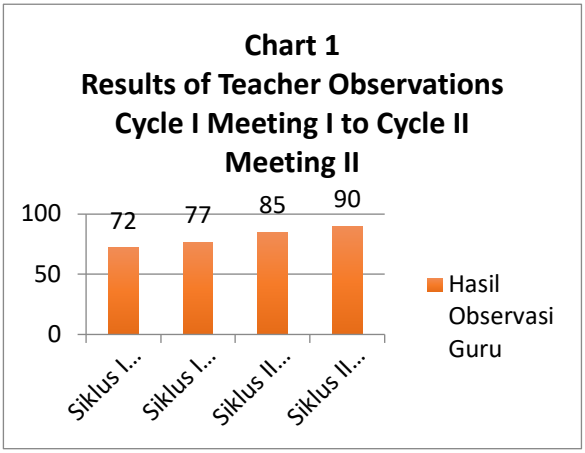
***Table:* 9**
Learning outcomes from the initial conditions of science learning for grade VI students of SD Negeri 004 Kecepatan Hulu, Rokan Hulu Regency can be seen from the following

No	Name	Grade	Categori
1	Anung Widie Atmojo	68	Not Complete
2	Dede Prayoga	71	Complete
3	Diandra Selvia	69	Not Complete
4	Dynda Agustina	66	Not Complete
5	Egi Oktavia	75	Complete
6	Faadhil Khayri Nizam	68	Not Complete
7	Fahry Julian Alfino	72	Tuntas
8	Febrian Efendi	67	Not Complete
9	Indra Lasmana	65	Not Complete
10	Janatul Husna	71	Complete
11	Kasio Fernandes	70	Complete
12	Kevin Hariyanto	68	Not Complete
13	Krisdayanti Putri Duha	71	Complete
14	M. Khalid Albed	69	Not Complete
15	Musjawir Hoiri	70	Complete
16	Natasya Willy	67	Not Complete
17	Nelfines	73	Complete
18	Novry Aidil Saputra	68	Not Complete
19	Radit	75	Complete
20	Rendi Desriansyah	66	Not Complete
21	Revan Lino Saputra	65	Not Complete
22	Riau fahrizal	73	Complete
23	Rifca Suci Noviyani	68	Not Complete
24	Riska Enjelita Br. Sitorus	68	Not Complete
Total / Average		**1.663**	**69**

Based on the table above, the learning outcomes of grade VI students at SD Negeri 004 Kecepatan Hulu, Rokan Hulu Regency before using the Experimental method in the learning process were not good. This can be seen from the average ability of the class which only reached 69. The number of students who still got scores below the KKM were 16 people and those who got good scores above the KKM average were 8 people.

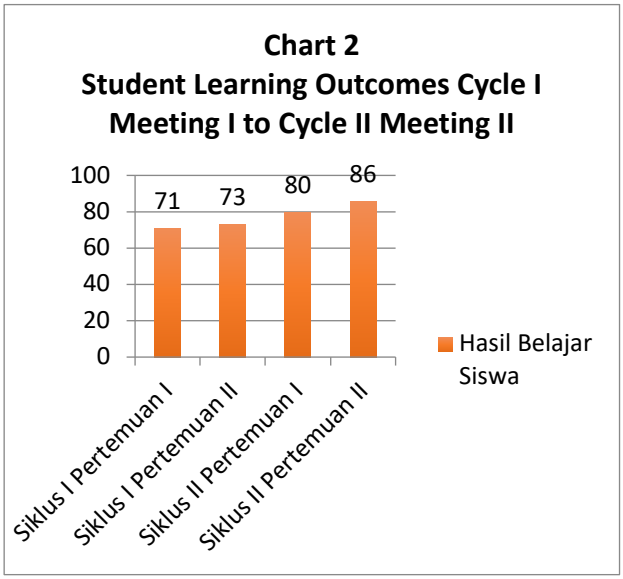
Teacher's Observation Results

After conducting research by applying the inquiry method to students, during the first cycle of the first meeting to the second cycle of the second meeting, the results of the research were increased in observation. In the results of the study there was a significant increase. The results of teacher observations can be seen in the following diagram :



1. Student Learning Outcomes

Student learning outcomes for 2 cycles also increased in each cycle. This shows that the experimental method was successfully applied in science learning for grade VI students. To improve student learning outcomes from the first cycle of the first meeting to the second cycle of the second meeting, it can be seen in the following diagram:



V. Conclusion

Based on the results of the research and the comparison, it can be concluded that through learning with the experimental method can improve the learning outcomes of class VI students at SD Negeri 004 Kecepatan Hulu, Rokan Hulu Regency in the subject of Natural Sciences. This learning is indeed needed to assist students in improving learning outcomes in learning Natural Sciences. By using the experimental learning model students are actively involved in learning and can also find and solve existing problems so that learning becomes more meaningful.

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