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EFFORTS TO IMPROVE SCIENCE LEARNING OUTCOMES USING DEMONSTRATION METHODS

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ABSTRACT

The main problem is science from elementary school students in West Bandung Regency. This is a program that is used to improve students' abilities in the west Bandung district elementary school. In particular, the targets to be mentioned are as follows: 1) Improve student learning achievement after the implementation of the demonstration method 2) Can affect student learning after the demonstration method is applied. The method that will be used is a method of observation with the material properties of light in class V elementary schools in West Bandung regency precisely at SDN Nugraha. The method used is qualitative with a classroom action research approach (CAR). The subject of the research was the fifth grade students of Nugraha Elementary School with 28 students.

Keywords: Demonstration Method, Learning Achievement, Motivation Learning.

ABSTRAK

Masalah utama penelitian ini adalah kurangnya nilai IPA dari siswa sekolah dasar di Kabupaten Bandung Barat. Secara umum tujuan jangka panjang program penelitian ini adalah meningkatkan kemampuan siswa melalui metode demonstrasi di Sekolah dasar kabupaten Bandung barat. Secara khusus, target yang ingin dicapai sebagai berikut : 1) Meningkatkan prestasi belajar siswa setelah diterapkannya metode demonstrasi 2) Dapat mempengaruhi motivasi belajar siswa setelah diterapkannya metode demonstrasi. Metode yang akan dipakai adalah metode demonstrasi dengan materi sifat-sifat cahaya di kelas V Sekolah dasar di Kabupaten Bandung barat tepatnya di SDN Nugraha. Metode yang digunakan adalah kualitatif dengan pendekatan penelitian tindakan kelas (PTK). Subjek penelitian adalah siswa kelas V SDN Nugraha dengan siswa 28 orang.

Kata kunci : metode demonstrasi, prestasi belajar, motivasi belajar.

INTRODUCTION

The interest in student learning in participating in learning is something important in the smooth learning process, this according to the National Education System Law No. 20 of 2003 states that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop his potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by his establishment, society, nation, and state.

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Education is one of the fundamentals and must be enjoyed by all Indonesians, especially at the basic level. Every level of education has various kinds of subjects, one of which is natural science (IPA). IPA is defined as a collection of knowledge arranged naturally. The development of science is not only marked by facts, but also by the existence of scientific methods and scientific attitudes. Scientific methods and scientific observations emphasize the nature of science.

In achieving the Special Learning Objectives in Science subjects in Elementary Schools, especially in SDN Nugraha, Cikalongwetan sub-district, West Bandung Regency there are still many difficulties. This can be seen from the low value of science subjects compared to the values of several other subjects, starting from the above, it requires thoughts and actions that must be done so that students in learning science concepts do not experience difficulties, so the goal special learning made by science subject teachers can be achieved well and the results can satisfy slept of object change taught by the teacher can be understood by students. Based on the description of the above background, the research chose the title "Efforts to Improve Student Learning Outcomes in Science Subjects Using Demonstration Methods in Class V Students of SDN Nugraha, Cikalongwetan District, West Bandung Regency".

LITERATURE

Demonstration Method

Demonstration method is one of the presentations of lessons by showing directly objects or ways to do something to show certain processes according to Putra, et al (2004: 424) Whereas according to Djamarah the demonstration method is a method used to show something the process or workings of an object relating to the subject matter. Shah (2000 p. 22) said that the method of demonstration of teaching methods by demonstrating goods, events, rules, and sequences of activities, both directly and through the use of teaching relevant to the subject or material being presented. So in the opinion of the experts above it can be concluded that the demonstration method is the method used by showing a process directly with regard to learning.

Steps of the Demonstration Method

To carry out a good and correct demonstration method there are several steps that must be understood and used by the teacher which consist of planning, testing and implementation by the teacher and then followed by students and ending with the evaluation of Hasibuan and Mujiono (1993 p. 31). The steps of the demonstration method are as follows:

1) Clearly formulate what skills and skills are expected to be achieved by students after the demonstration is carried out.
2) Considering seriously, whether the method is reasonably used and what is the most effective method to achieve the objectives formulated.
3) The tools needed for the demonstration can be easily done and have been tried beforehand so that when the demonstration is held it doesn't fail.
4) The number of students allows for a clear demonstration.
5) Determine the outlines of the steps to be carried out, preferably before the demonstration is carried out, it has been tried first so as not to fail in time.
6) Taking into account the time needed is time available to give students the opportunity to ask questions and comments during and after the demonstration.

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Learning Outcomes

Learning outcomes are abilities possessed by students after he receives his learning experience. After a learning process ends, students get a learning outcome. Learning outcomes have an important role in the learning process. The main objectives to be achieved in learning activities are learning outcomes. Learning outcomes are used to know the extent to which students can understand and understand the material. According to Hamalik (2004 p: 31), the learning outcomes are patterns of actions, values, knowledge, attitudes, appreciation, ability, and skills. Susanto (2013 page: 3) says that changes that occur in students, both involving cognitive, affective, and psychomotor as a result of learning from learning.

Understanding of learning outcomes is reinforced by Nawawi (in Susanto, 2013 p. 5) which states that learning outcomes can be interpreted as the level of success of students in learning subject matter in schools stated in scores obtained from the test results to know the amount of certain subject matter.

Learning outcomes according to Bloom (in Suprijono, 2013 p. 6) is the ability possessed by students is different - after he receives his learning experience. Learning outcomes include cognitive, affective, and psychomotor abilities. Whereas according to Sujana (2004 page: 12) learning outcomes are abilities - abilities possessed by students after receiving their learning experience. So according to the experts above it can be concluded that science learning outcomes are abilities possessed by students differently and changes in behavior as a whole are not just one aspect of human potential.

From some understanding of learning outcomes according to experts above, the writer can conclude that learning outcomes are a result obtained by students after these students carry out activities that have been achieved by someone involving cognitive, affective, and psychomotor aspects, which are expressed in symbols, letters, or sentence.

The Nature Of Science

Ahmad Susanto (2013 p. 167) said that science or science is a human effort in understanding the universe through proper observation of the target, after using the procedure, and explained my reasoning so as to get a conclusion. And according to Patta Bundu (2006 page: 9) science or science is a process of activities carried out by scientists in gaining knowledge and attitudes towards the process of these activities. Science, in general, has three components, namely scientific processes, scientific products, and scientific attitudes.

Science is defined as a collection of knowledge that is arranged in a natural way. The development of science is not only characterized by facts, but also by the existence of scientific methods and scientific attitudes. Scientific methods and scientific observations emphasize the nature of science.

In detail the nature of science according to Bridgman (2002 pp: 7) is as follows:
1. Quality; basically the concepts of science can always be expressed in the form of numbers.
2. Observations and Experiments; is one way to be able to understand the concepts of science appropriately and be tested for its truth.
3. Prediction (prediction); is one of the important assumptions in the IPA that the mystery of the universe can be understood and has ordered. With these assumptions through careful measurement, various natural events that will occur can be predicted precisely.

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4. Progressive and communicative; it means that science always develops in a more perfect direction and the findings that exist are a continuation of previous discoveries.
5. Universality; truths found are always generally accepted.

From the explanation above, it can be concluded that the nature of science, where the concepts are obtained through a process using scientific methods and begins with a scientific attitude and then obtained results (products).

1. Science Teaching and Learning Process

The process in the sense here is the interaction of all components or elements contained in teaching and learning with each other interrelated (inter-independent) in the bond to achieve the goal (Usman 2000 pp: 5).

The learning process is a process in which there are activities of interaction between teacher and students and reciprocal communication that takes place in an edition situation to achieve learning goals (Rustaman, 2001 p. 461). And according to Syaiful (2009 pp: 61), learning is to teach students to use the principles of education and learning theory which are the main determinants of educational success.

In line with that Jogiyanto (2007 p. 45) also argues that learning can be defined as a process in which an activity originates or changes through a reaction that is faced and the characteristics of the change in activity can be explained based on genuine reaction trends, maturity or temporary changes.

From the above opinion, it can be concluded that the science teaching and learning process includes activities carried out by teachers ranging from planning, implementation of activities to evaluation and follow-up programs that take place in educational situations to achieve certain goals, namely science teaching.

2. Science Learning Achievement

Achievement according to Sumadi Suryabrata (2006 page: 72) is defined as the final formulation value that can be given by the teacher regarding the progress or student achievement during a particular learning period, and Zaenal Aripin (2012 p. 6) suggests that the notion of achievement is the result of ability, skill and the nature of someone in completing something.

Understanding of learning according to Bell-Gredler (in Udin S. Winataputra, 2008 p. 15) is a process carried out by humans to obtain a variety of competencies, skills, and attitudes or abilities, skills and attitudes obtained gradually and sustainably starting from infancy to old age through a series of lifelong learning processes.

Whereas according to Hakim (2005 pp: 1) learning is a process of change in the human personality, and these changes are manifested in the form of increasing quality and quantity of behavior such as increasing skills, knowledge, attitudes, habits, understanding, skills, thinking power, and others -other abilities.

Learning achievement is the result achieved by a person in mastering the knowledge and skills developed in the lesson, usually indicated by a number test of the value given by the

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teacher (Asmara, 2009 p. 11). Whereas according to Hetika (2008 p. 23) states that learning achievement is ignorance or skill that is displayed in the expertise or collection of knowledge.

RESEARCH METHODS

According to Fitri Yuliawati, et al (2017 page: 17), classroom action research is an activity of collecting, processing and data to determine the success rate of the types of actions carried out by the teacher in the learning process. Whereas according to Mukhlis (2000: 6) CAR is a form of study that is systematically reflective by the perpetrators of actions to improve the conditions of learning carried out.

Arikunto (2006 p. 16) describes Classroom Action Research as a reflection of learning activities in the form of an action, which is deliberately raised and occurs in a class simultaneously. Research is interpreted as an activity of observing an object by using the rules of methodology to obtain data or information that is useful in improving the quality of a matter that interests and is important for researchers, while action is a movement of activities intentionally carried out with specific objectives in the form of cycle circuits and the last is the class is the same group of students and receive the same lesson from an educator.

This research is action research because research is done to solve learning problems in the classroom. This study also includes descriptive research, because it describes how a learning technique is applied and how the desired results can be achieved. Point Sugiarti, (1997 pp: 8) classifies action research into four types, namely, (a) teacher as researcher; (b) collaborative action research; (c) simultaneous integration; (d) experimental social administration. In this action research using the form of a teacher as a researcher, the full person in charge of this research is the teacher. The main purpose of this action research is to improve the learning outcomes in the classroom where the teacher is fully involved in research starting from planning, action, observation, and reflection.

In this study, researchers did not cooperate with anyone, the presence of researchers as teachers in the classroom as permanent teachers and carried out as usual, so students did not know if examined. In this way, it is expected to obtain as objective data as possible for the validity of the data needed.

RESULTS AND DISCUSSION

Results

Based on the results of the study, the following findings are obtained:
The implementation of the first cycle of researchers suggests that the value of students is still much below the KKM average of 65.

From the data that has been obtained, it can be concluded that from the results of the pretest and posttest cycle I showed changes in value and a reduced percentage of students who did not complete around 10.8% from 75%, to 64.2% and those that were completed from 25% to 35 , 7% then increases by around 10.7%. Here there has been a reduction in students who have not yet finished. even though the value is still not 100% perfect. So from that, the researcher proceeded to cycle II, because it still needed to make improvements and improvements in the learning process.

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Based on the results of the research in the second cycle, the findings obtained can be described as follows:

The implementation of Cycle II action is the result of reflection on Cycle I actions that have been carried out previously between the teacher as a researcher and his colleagues as an observer. In its implementation, Cycle II actions are not much different from the actions in Cycle I, which starts from the planning stage. , execution of action (acting), observation (observing) and reflection (reflecting).

Seeing a significant increase from the initial condition to the second cycle, the researchers decided that they did not need to proceed to the next cycle because at least 80% of students had achieved the Minimum Completion Criteria (KKM) which was 65. Comparison of this demonstration method made student learning outcomes increase can be seen from the completeness of the learning evaluation results in the initial conditions, a cycle I, and cycle II, if presented in the form of a diagram are as follows:

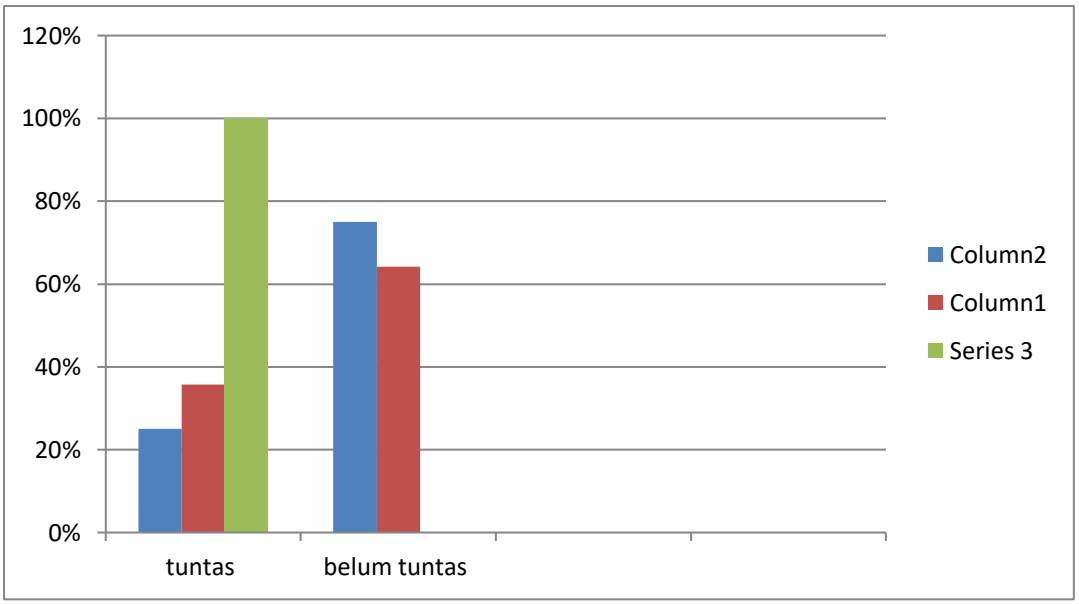

Figure 1. IPA Improvement Diagram Using Demonstration Methods

From the findings of the research results it can be concluded that the value of students is 100% above the KKM, therefore it can be concluded that by using the demonstration method can improve science learning outcomes, especially in the material properties of light in class V SDN Nugraha.

Based on the observations of the researchers, the condition of the science teaching and learning process that has been carried out prioritizes the method and approach of lectures and questions and answers without students' psychomotor actions in the form of real work. So that there is a gap between the wishes and expectations of the teacher as illustrated in the Curriculum and Syllabus and RPP with the fact that students emphasize memorizing skills or thinking skills, not followed by a deep understanding of understanding and correlation between learning material and the reality of life.

Based on the test results data shows that the understanding of most students about the material properties of light is still lacking or still low and there are still students who have scores below the KKM, while the KKM IPA score is 65. According to the researchers' initial analysis, this occurs as a result of low the level of student participation in the learning process and the lack of supporting information in the development of subject matter. After the first cycle, there was a slight change in the

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value of students, the second cycle was very significant changes after the implementation of the demonstration method. The value of 100% of students meets the criteria.

CONCLUSIONS AND SUGGESTIONS

A. Conclusion

From the results of the learning activities that have been carried out for two cycles, and based on all the discussions and analyzes that have been carried out can be concluded as follows:

Learning with demonstration methods has a positive impact on improving student achievement. The application of the demonstration method is said to have a positive influence, which can improve student learning outcomes, seen from the results of the assessment where in cycle 1 there are still some students whose scores are still below the expected value or still under the KKM. Whereas in cycle 2 there is an increase in student scores, where all students get the expected value or all students are said to be complete in accordance with KKM even exceeding the KKM value.

B. Suggestions

From the results of the research obtained from the previous description that the science teaching and learning process is more effective and more optimal results for students, the following suggestions are given:

1. To carry out learning using the demonstration method requires sufficient preparation, so the teacher must be able to determine or choose a topic that can really be applied with the demonstration method in the teaching and learning process so that optimal results are obtained.
2. In order to improve student learning achievement, teachers should train students more often with various methods, even in a simple level, where students will be able to find new knowledge, acquire concepts and skills, so students succeed or are able to solve the problems they face.
3. Need further research.
4. For similar research, improvements should be made in order to obtain better results.

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