

APPLICATION OF DEMONSTRATION METHODS TO IMPROVE STUDENT LEARNING OUTCOMES IN SCIENCE LEARNING ENERGY SOURCES MATERIAL

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ABSTRACT

The main problem of this research is low second grade students learning outcomes of Ciampel Elementary School Padalarang subdistrict Bandung Barat Regency in science subject energy source material. Class Action Research has been carried out which aim to improve student learning outcomes in science of energy resource material through the application method demonstration method in the second grade of Ciampel Elementary School. This research was carried out in two cycles, each cycle consisted of 4 stages. Namely : Planing, action, observation and reflection with the number of 30 students consisting of 10 boys and 20 girls. Trought out the last result of evaluation in the first cycle is obtained mastery of clasical learning amount 63.33% and the average value is 67.66. The result of the last evaluation of the second cycle is obtained mastery of classical learning amount is about 80% and the average value is 72,8. It can be concluded that the application of demonstration method is able to increase in science subject about energy resource material in second grade Ciampel Elementary School.

Keyword : Demonstration method, learning, learning result.

ABSTRAK

Permasalahan utama penelitian ini adalah rendahnya hasil belajar siswa kelas II SD Negeri Ciampel Kecamatan Padalarang Kabupaten Bandung Barat pada mata pelajaran IPA materi sumber energi. Telah dilakukan Penelitian Tindakan Kelas (PTK) yang bertujuan untuk meningkatkan hasil belajar siswa pada mata pelajaran IPA materi sumber energi melalui penerapan metode demonstrasi di kelas II SD Negeri Ciampel. Penelitian ini dilaksanakan dua siklus, setiap siklus terdiri dari empat tahap yaitu: perencanaan, pelaksanaan tindakan, observasi dan refleksi, dengan jumlah siswa 30 yaitu terdiri dari 10 orang laki-laki dan 20 orang perempuan. Dari hasil evaluasi akhir siklus I diperoleh ketuntasan belajar klasikal sebesar 63.33 % dengan nilai rata-rata 67.66. Hasil evaluasi akhir siklus II diperoleh ketuntasan belajar klasikal sebesar 80%, dengan nilai rata-rata 72.8. Dapat disimpulkan bahwa penerapan metode demonstrasi dapat meningkatkan hasil belajar siswa pada mata pelajaran IPA materi sumber energi di kelas II SD Negeri Ciampel.

Kata Kunci: Metode demonstrasi, Pembelajaran IPA, Hasil belajar.

INTRODUCTION

In Law Number 20 of 2003 Article 1 paragraph 1 concerning the National Education System (Hilmiari, 2017), national education is a conscious and planned effort to realize a

learning atmosphere and learning process so that students actively develop their potential to have religious spiritual power, self-control, personality, intelligence, noble character, and skills needed by himself, society, nation and state. Primary school education is the first level of formal education and has the responsibility to develop student attitudes and skills. In formal education also applied the basics of science, personality, morals, character formation to live in society. This can be seen in the subjects in elementary school, namely learning Natural Sciences (IPA). However, learning science in class II SDN Ciampel in Padalarang sub-district is still experiencing problems. Learning is still focused on the teacher, the subject matter delivered by the teacher is still dominant, or still using the lecture method, or assignment. The learning method used does not match the concept that will be given to students. In addition to this the teacher does not understand the use of methods that promote student activity, lack of media, lack of class mastery and rarely provide reinforcement to students. So that the learning outcomes obtained by students in several subjects are less satisfying, for example in science learning.

Seeing from such inequality, research provides a solution for doing different methods because during the learning process students look less enthusiastic in listening to the teacher's explanation. The use of methods in natural science learning must be adjusted to the characteristics of the science materials to be studied. Thus the researchers conducted a different method using the demonstration method. The demonstration method is a method of teaching by way of displaying goods, events, rules and sequences of carrying out an activity, either directly or through the use of teaching media that are relevant to the subject matter or the material being presented (Syah, 2000). Based on the above matters, the researcher was interested in trying to improve the learning process which was deemed not optimal, it was hoped that by applying the demonstration method as one of the learning approaches in elementary school it could improve student learning outcomes in science learning, especially in energy source material.

Demonstration Method

According to Suaedy (2011), the demonstration method is a way of delivering material by demonstrating a process or activity. This method is very effective applied to show the process of an activity. This method is usually combined with lecture and question and answer methods. The demonstration method is a method of teaching by demonstrating goods, events, rules, and the sequence of conducting an activity, either directly or through the use of

teaching media that are relevant to the subject matter or the material being presented (Syah, 2000).

Steps for Application of the Demonstration Method

According to Dimiyati and Mujiyono (2009) suggests that the steps in applying the demonstration method are as follows:

a) Preparation for using demonstration methods, including:

- 1) Assessing the suitability of the method towards the objectives to be achieved.
- 2) Analyzing equipment requirements for demonstrations.
- 3) Try out equipment and time needs analysis.
- 4) Design outline of the demonstration.

b) The use of demonstration methods, including:

- 1) Preparing equipment and materials needed for demonstrations.
- 2) Provide a demonstration introduction to prepare students for the demonstration, containing an explanation of the demonstration's security procedures and instructions.
- 3) Demonstrate the actions, processes or procedures that are accompanied by explanations, illustrations and statements.

c) Follow-up to the use of the demonstration method, including:

- 1) Discussion of actions, processes or procedures that have just been demonstrated.
- 2) Provide opportunities for students to try to do everything that has been demonstrated.

Learning Outcomes

Sanjaya (2010) argues, learning outcomes are related to achievement in gaining ability in accordance with the specific goals planned. Thus, the main task of the teacher in this activity is to design instruments that can collect data about the success of students achieving learning goals. Based on this data the teacher can develop and improve learning programs. Learning outcomes are said to be meaningful if the learning outcomes can shape student behavior, are useful for learning other aspects, can be used as a tool to obtain information and other knowledge, there is a willingness and ability to learn on their own and can be used to develop students' creativity. Learning outcomes are behavioral changes obtained by learners after experiencing learning activities. Learning outcomes are said to be meaningful if the learning outcomes can shape student behavior, are useful for learning other

aspects, can be used as a tool to obtain information and other knowledge, there is a willingness and ability to learn on their own and can be used to develop students' creativity. Learning outcomes are behavioral changes obtained by learners after experiencing learning activities.

According to Sudjana (2010), learning outcomes are a result of the learning process by using a measurement tool in the form of a structured test, both written tests, oral tests and deed tests. To see learning outcomes an assessment of students is conducted which aims to find out whether students have mastered a material or not.

Learning Science

Natural Science or science is a science that systematically studies natural phenomena. Science as a process is a step taken by scientists to conduct an investigation in order to find an explanation of natural symptoms. The step is to formulate the problem, formulate a hypothesis, design an experiment, collect data, analyze and finally conclude. From this it appears that the fundamental characteristics of Science are quantification meaning that natural phenomena can take the form of quantity (Rindiani: 2011). Learning science in elementary school is very important because these subjects are also used in the National Examination. For that as a facilitator, the teacher must be able to create fun and not boring science learning. In natural science learning in elementary school that must be taught to students is the process and product of the science itself. Both of these things cannot be separated from each other, both are interconnected. In this case the teacher acts as a facilitator, the teacher must have innovative and creative ways to create a fun science learning that fits the characteristics and conditions of the student himself. Learning Science is a learning activity designed to provide learning experiences that involve mental and physical processes through interaction between students and teachers, the environment, and other learning resources in achieving Basic Competencies (KD). The learning experience in question can be realized through the use of methods, models, and learning media that are varied and student-centered. From the above, it can be concluded that science learning is the study of nature and the symptoms that occur in nature by making direct observations, observations, and experimentation so as to produce a conclusion, which develops through scientific methods by conducting experiments. With natural science learning at elementary school it should open opportunities to nurture students' natural curiosity. This will help

students to develop the ability to ask questions and find answers based on evidence, as well as develop scientific thinking.

METHOD

The method in this study uses Classroom Action Research method. According to Kunandar (2010) classroom action research can be defined as an action research conducted by teachers who are also researchers in their class or together with others (collaboration) by designing, implementing, and reflecting collaborative or participatory actions aimed at improve or improve the quality (quality) of the learning process in its class through a certain action in a cycle. The use of PTK is expected to develop teacher's professionalism in improving the quality of science education in elementary schools, as well as being able to establish partnerships between researchers and elementary teachers in solving the actual problems of science learning in the field. Classroom action research is a means of learning learning in particular and education in general, the results of which will provide useful input for decision making. Thus this research is a form of reflective research, through certain actions to improve and improve the practice of classroom learning in a more professional manner.

RESULTS AND DISCUSSION

Results

The study data of learning outcomes in the first cycle and second cycle can be seen in complete table one of the results of the analysis of student learning outcomes obtained with an average value of 67.66 and the acquisition of learning percentage 63.33% based on predetermined criteria 70 shows student learning outcomes in the less category . Thus student learning outcomes in this study need to be followed up in the next cycle.

Table 1. Results of Student Learning Value Acquisition Analysis in Cycle I

No	Name	Individual Score	Criteria Completeness minimal	Raising of study	
				Increase	Havent yet increase
1	AAKN	73	70	√	
2	AIKN	73	70	√	
3	ANL	76	70	√	
4	AA	70	70	√	
5	AKP	76	70	√	

6	BRP	80	70	√	
7	BS	56	70		√
8	BAZ	56	70		√
9	CMJ	73	70	√	
10	D	73	70	√	
11	DSS	53	70		√
12	FAM	70	70	√	
13	FAA	66	70		√
14	GKH	80	70	√	
15	JTR	53	70		√
16	KPZ	50	70		√
17	MZ	63	70		√
18	ML	70	70	√	
19	MFR	63	70		√
20	MAI	73	70	√	
21	NRR	70	70	√	
22	NN	63	70		√
23	RM	76	70	√	
24	RFA	76	70	√	
25	SA	53	70		√
26	SAM	73	70	√	
27	VAD	73	70	√	
28	NSA	73	70	√	
29	DA	76	70	√	
30	SS	50	70		√
Total		2030		19	11
Rate		67.66			
Number of students increasing		19			
Number of students who have not increased		11			
Mastery learning %		63.33%			

From the table above, individual results can be concluded that there were 19 students who stated that they had increased their learning and 11 students who were declared to have not increased their learning, the learning completeness achieved was 63.33%, while in cycle I it stopped if 80% of students had reached the KKM. Based on the results of observations made in cycle I, it shows that learning activities using the demonstration method are not yet in line with expectations. Therefore, observation must be carried out on cycle II learning activities.

The study data of the learning outcomes in cycle II can be seen in full in the table of two results of the analysis of the acquisition of student learning scores obtained with an

average value of 67.66 and the acquisition of the percentage of learning 63.33%. Based on predetermined criteria 70 shows student learning outcomes are in the less category. Thus student learning outcomes in this study need to be followed up in the next cycle.

Table 2. Results of Student Learning Value Acquisition Analysis in Cycle II

No	Name	Individual score	Criteria completeness minimal	Raising of study	
				Increase	Havent yet increase
1	AAKN	80	70	√	
2	AIKN	76	70	√	
3	ANL	83	70	√	
4	AA	76	70	√	
5	AKP	80	70	√	
6	BRP	100	70	√	
7	BS	63	70		√
8	BAZ	73	70	√	
9	CMJ	80	70	√	
10	D	80	70	√	
11	DSS	63	70		√
12	FAM	80	70	√	
13	FAA	73	70	√	
14	GKH	90	70	√	
15	JTR	63	70		√
16	KPZ	60	70		√
17	MZ	66	70		√
18	ML	76	70	√	
19	MFR	76	70	√	
20	MAI	80	70	√	
21	NRR	73	70	√	
22	NN	76	70	√	
23	RM	80	70	√	
24	RFA	76	70	√	
25	SA	73	70	√	
26	SAM	73	70	√	
27	VAD	80	70	√	
28	NSA	76	70	√	
29	DA	76	70	√	
30	SS	63	70		√
Total		2184		24	6
Rate		72.8			
Number of students increasing		24			
Number of students who		6			

have not increased	
Mastery Learning %	80%

From the individual results data, it can be concluded that there are 24 students (80%) who are declared to have increased / completed and the remaining 6 students (20%) stated not to have increased / completed.

Discussion

In its implementation this research was conducted in two cycles starting from January 17, 2018 to January 24, 2018. From the two cycles that have been implemented, it was seen that there was an increase in student learning outcomes with the application of the demonstration method. This is also strengthened by increasing student learning activities from cycle I to cycle II, as well as teacher activities.

From the results of the above analysis can be said in general students have not understood well the material being taught. These results provide an understanding that student learning completeness is still not fulfilled because learning outcomes can be said to be complete if it reaches the specified KKM value of 70. The value in the first cycle obtained an average score of 67.66 with a percentage of learning completeness 63.33%. Based on the value in cycle I shows that learning activities using demonstration methods are not in line with expectations. Therefore, research must be carried out in the second cycle.

In cycle II there has been a change in the learning process when compared to cycle I. The acquisition of scores in the second cycle increased, from 67.66 to 72.8 with the percentage of mastery learning 80%. So this study was declared successful because it had reached the KKM value.

CONCLUSION

Based on the results of the research and discussion it can be concluded as follows:

1. Learning using demonstration methods can improve student learning outcomes in energy source material in class II SDN Ciampel.
2. There is a significant increase in student learning outcomes. Seen in the changes that occur in the science learning process with material energy sources carried out through the learning process in cycle I and cycle II. Changes that occur in the learning process are able to encourage students' ability to learn.

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