East Asian Journal of Multidisciplinary Research (EAJMR)
Vol. 1, No. 9, 2022 : 1997-2006

The Effectiveness of the Demonstration Method to Improve Student Learning Outcomes

Rohmat Umara
UPTD SD Negeri 1 Cikeris
Corresponding Author: Rohmat Umara rohmatumara@gmail.com

A R T I C L E I N F O

Keywords: Learning Outcomes, Demonstration Method, Science Subjects

Received : 05 October
Revised : 15 October
Accepted: 21 October

A B S T R A C T

This research is motivated by the fact that most students find it difficult to learn science so they don't like it. From the results of preliminary observations, obtained several things that are not in accordance with the fulfillment of quality learning for grade 6 students at SD Negeri 1 Cikeris Purwakarta Regency, namely: (1) The learning activities carried out have not provided a learning experience for students who require excessive challenges to optimize the development of thinking skills, creativity, problem solving skills, experimentation, innovation, discover y, development of interests, talents and skills. (2) In the delivery of learning, the teacher does not attract the attention of students. Among them are not using learning methods that are less precise and less varied, as well as the lack of utilization of media and learning resources from the environment, resulting in low student learning outcomes.

DOI: https://10.55927/eajmr.v1i9.1513
ISSN-E: 2828-1519
https://journal.formosapublisher.org/index.php/eajmr/index

INTRODUCTION

The learning process is a continuous activity whose main goal is for students to absorb the subject matter. Karli (2004: 48) reveals that the task of a teacher is not just teaching (teaching) but more emphasis on learning (learning) and educating, learning that can be obtained by students while in school should be used for provision of life and to survive. Therefore, learning is not only emphasized on science alone. In elementary schools, learning is carried out through various learning strategies so that the hidden potential of students can be identified and to increase students' motivation in learning so that in learning there is a fun and exciting atmosphere. Therefore, educators need to know about various approaches and techniques in teaching that are good and appropriate.

In order to improve the quality of learning, a teacher is required to be critical, creative, and dynamic in responding to various learning problems. Therefore, research on various learning problems is a must to improve the professional abilities of a teacher. Based on reflection and evaluation, the examples of the activities that have been carried out turned out to be less interesting and challenging. The author understands that the implementation of learning has not been able to develop creativity and student learning outcomes. The learning carried out has not provided students with a learning experience that requires excessive challenges to optimize the development of thinking skills, creativity, problem solving skills.

The results of the evaluation of learning obtained in the learning process of science subjects with the subject of light and its properties show that only 10 students whose scores reach 70 and above and 19 students below 70 out of 29 students of class VI SD Negeri 1 Cikeris with an average grade of 60.25. This may be due to the fact that during the learning process, students appear passive, students pay less attention to the teacher's explanations, and students are less enthusiastic in receiving subject matter. In addition, the learning that the author has done is lacking in ideas so that it does not provide opportunities for students to improve their competencies, which in this case are 21st Century Skills. namely: creativity and innovation, communication and collaboration, research and information literacy skills, critical thinking, problem solving and decision making, digital citizenship (digital citizenship) and technology concepts and operations (NETS in Gora, 2010: 26).

The fact that is observed, faced and carried out by the author is what prompted the author to carry out an innovation "The application of demonstration methods to improve the learning outcomes of 6th grade students in science subjects with the subject of light and its properties." From the results of preliminary observations, obtained several things that are not in accordance with the fulfillment of quality learning for grade 6 students at SD Negeri 1 Cikeris Purwakarta Regency, namely: (1) The learning activities carried out have not provided a learning experience for students who require excessive challenges to optimize the development of thinking skills, creativity, problem solving skills, experimentation, innovation, discovery, development of interests, talents and skills. (2) In the delivery of learning, the teacher does not attract the attention of students. Among them are not using learning methods that are less precise and

less varied, as well as the lack of utilization of media and learning resources from the environment, resulting in low student learning outcomes.

In general, the purpose of this study is to determine the level of success and contribution of the use of demonstration methods in science subjects with the subject of light and its properties on student learning outcomes, especially students who have learning difficulties caused by weak grasping power of the learning material presented. resulting in low learning achievement of students, and teaching skills are expected to be getting better. Thus, they will become professional teachers who are able to apply the rules of CAR to improve the quality of learning. Specifically, the objectives to be achieved in this research are: (1) Finding weaknesses/problems in learning through reflection. (2) Provide an overview of the application of demonstration learning methods to make students more interested and active in participating in learning activities and improving learning achievement. (3) To find out the role of learning by using the demonstration method on the understanding of students on the subject of light and its properties. (4) To find out whether learning by applying the demonstration method can improve student learning outcomes in science subjects with the subject of light and its properties in fifth grade students of SD Negeri 1 Cikeris.

The results of this Classroom Action Research (CAR) are expected to be useful as a guide on how to improve and improve the science learning process through the demonstration method on the subject of Light and Its Characteristics. The benefits that will be obtained are: (1) With the implementation of this action research, teachers can be more skilled at using varied learning, teachers will be accustomed to conducting small research which is certainly very useful for improving the teaching and learning process. (2) Adding experience and knowledge in making learning model strategies that are in accordance with the approach to the subject matter and characteristics of students. (3) Helping teachers develop professionally. (4) Can improve students' understanding in mastering science subjects, especially on the subject of light and its properties. (5) The results of this study will be useful for students who have problems in this class to try to improve their learning activities so that they can improve their learning outcomes or quality. (6) The learning process is not passive so that it stimulates students to focus more on learning. (7) The results of this study will provide a large contribution in order to improve learning in the classroom, improve the quality of schools and benefit other schools.

LITERATURE REVIEW

The Nature of Classroom Action Research (CAR)

Schmuck (1997) suggests that CAR is a systematic and planned research process through corrective actions taken by teachers in their own classrooms. CAR aims to improve teacher performance so that the quality of learning becomes even more improved. Teachers need to conduct classroom action research for the following reasons (Wardani, et al., 2005). (1) Teachers have the autonomy to assess their own performance. (2) Findings as learning research

conducted by researchers are often difficult to apply to improve learning. (3) The teacher is the person who is the most familiar and knows the class best. (4) The teacher-student interaction takes place in a unique way. (5) Teacher activities in various innovative activities that are developmental in nature require teachers to be able to do CAR in their class. By doing CAR, teachers get many benefits. According to Wardani, et al., (2005) the benefits of CAR for teachers include: (1) Helping teachers improve learning. (2) Helping teachers develop professionally. (3) Increase the teacher's self-confidence. (4) Enables teachers to actively develop knowledge and skills. The terminology of the steps in implementing CAR varies. However, in general the steps in conducting PK can be described as follows (modified from the model developed by Kemmis & Mc. Taggart, 1991).

Table 1. Establishing Focus through Preliminary Study

Establishing Focus through Preliminary Study
1. Problem Identification 2. Problem Analysis 3. Development of Alternative Actions

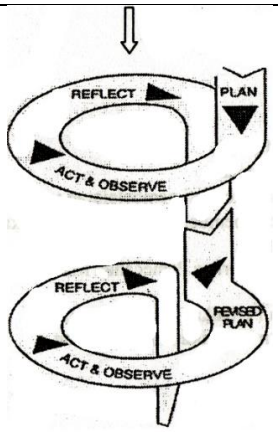

Figure 1. PTK Procedure

Science Learning Concepts in Elementary School

According to Sapriati, Amalia, et al., (2009:2.3). Science education in elementary schools aims for students to master knowledge, facts, concepts, principles, discovery processes and have a scientific attitude that will be beneficial for students in studying themselves and the natural environment. Science education emphasizes providing direct experience to find out and act so as to be able to explore and understand the natural surroundings scientifically. Therefore, Natural Sciences (IPA) deals with how to find out about nature systematically, so that science is not only the mastery of a collection of knowledge in the form of facts, concepts, or principles but also an invention. Science education is expected to be a vehicle for students to learn about themselves and the environment, as well as prospects for further development in applying it in everyday life.

Science learning should be carried out by scientific inquiry (scientific inquiry) to foster the ability to think, work, behave scientifically and communicate it as an important aspect of life skills. Therefore, science learning

in elementary schools emphasizes providing direct learning experiences through the use and development of process skills and scientific attitudes. Science subjects in elementary schools aim to make students have the following abilities: (1) Gain confidence in the greatness of God based on the existence, beauty, and orderliness of His natural creation. (2) Develop knowledge and understanding of science concepts that are useful and can be applied in everyday life. (3) Develop curiosity, positive attitude, and awareness about the interplay of the relationship between science, environment, technology, and society. (4) Develop process skills to investigate the environment, solve problems and make decisions. (5) Increase awareness to participate in maintaining, safeguarding, and preserving the natural environment. (6) Increase awareness to appreciate nature and all its regularities as one of God's creations. (7) Acquire knowledge, concepts, and science skills as the basis for continuing education to junior high school. The scope of science study materials for elementary schools includes the following aspects: (1) Living things and life processes, namely humans, animals, plants and interactions with the environment, as well as health. (2) Objects/materials, their useful properties include: liquid, solid, and gas. (3) Energy and its changes include: force, sound, heat, magnetism, electricity, light, and simple machines. (4) Earth and the universe include: land, earth, solar system, and other celestial bodies.

The Nature of Teaching Methods in Learning

In English, method means way. When we relate to learning, the method is the method used by the teacher in teaching students. Because the method emphasizes the role of the teacher, the term method is often coupled with the word teaching, namely the teaching method. Joni (1992/1993: 1.24) suggests that methods are various relatively general ways of working that are suitable for achieving certain goals. Some forms of teaching methods that we know are lectures, discussions, questions and answers, simulations, assignments, group work, demonstrations (modeling), experiments, problem solving, inquiry, and so on. The teaching method is one of the components that must be used in learning activities because to achieve learning objectives and in an effort to form the abilities of students, an effective teaching method or method is needed. The use of teaching methods must be able to create interaction between students and students as well as between students and teachers so that the learning process can be carried out optimally. Therefore, in choosing and implementing teaching methods, teachers must prioritize taking action on how to teach students to be effective and maximal in carrying out the learning process and obtaining learning outcomes.

Demonstration Method

There are many types of teaching methods, this is caused by many factors, for example; goals of various types and functions, students of various levels of maturity, situations of various circumstances, facilities of varying quality and quantity, and teachers' personalities and different professional abilities. One of them is the demonstration method. The demonstration method

is a teaching method that presents learning material by showing directly the object or how to do something so that it can be learned in the process. Demonstrations can be used in all subjects according to the topic and learning objectives to be achieved. One thing that needs to be considered in the implementation of the demonstration is that the position of all students must be able to pay attention to (observe) the object to be demonstrated. During the demonstration process, the teacher has prepared the tools that will be used in the demonstration. Teachers are required to master the subject matter and be able to organize the class. There are often errors in the implementation of active teacher demonstrations while passive students only pay attention to teacher demonstrations, even the students' point of view is not focused on the object displayed by the teacher. Demonstrations are used solely for; (1) concretize an abstract concept or procedure; (2) teach how to do or use procedures appropriately; (3) ensure that the tools and procedures can be used; (4) generate interest in using the tools and materials of the procedure.

METHODOLOGY

In learning activities, the teacher tries to apply learning by using the methods of demonstration, discussion, question and answer and assignments. The learning activities apply the following strategies: The strategies applied to the learning activities are: (1) Students are divided into several study groups. Then students will work on practical/experimental assignments and work on LKPD and reports in groups. (2) Designing group assignments, the writer as task coordinator must design a series of tasks (project description) which contains activities that must be carried out/performed by project member students in order to master the competencies that have been determined. (3) Managing resistance. Changes in the rhythm and way of working of educators and students have the potential to face resistance and rejection due to misunderstanding of the assigned independent or group assignments. Based on these reasons, the author is obliged to manage this potential well by going around each group to guide the group if anyone finds it difficult.

Before learning activities begin, the teacher first prepares learning tools by applying the methods of demonstration, discussion, question and answer and assignments to improve student learning outcomes. Then the teacher carries out learning activities according to the steps in the learning device. In practice, the teacher gives apperception to students at the beginning of learning that they will be given a task in the form of a simple practicum about light and its properties and then each group will present it. Then, each group will be given a practicum/demonstration-based task which means that the learning carried out will use practical principles and procedures in their learning activities. This learning involves students in constructing knowledge in scientific ways, such as formulating hypotheses, searching for data, analyzing data, and drawing conclusions.

Students in groups will do a practicum/demonstration about light and its properties by following the practicum steps in the LKPD. The teacher here only serves as a facilitator and monitors/monitors the students during the

practicum/demonstration activities. So in other words, learning is student-centered. Then at the next stage, each group will make a presentation in front of the class. The teacher provides reinforcement/input to the group before their report is presented. The technique for observing the activities of students and teachers is carried out during the learning process by referring to the observation sheet that has been prepared previously. This observation sheet contains normative learning steps that must be carried out by a professional teacher when carrying out learning activities, starting from the preparatory steps, core activities, to closing the lesson. The results of this reflection will later become the basis for reflection for the next stage/cycle. Then reflection activities are carried out after the learning activities are completed. Reflection is carried out jointly between researchers and colleagues. The results of this reflection then become recommendations for data analysis and decision making. For the analysis technique, the research data was collected through the post-test final test technique on learning activities, student observation sheets, and teacher performance observation sheets.

RESULTS

The action steps taken by the author of each cycle on science subjects on the subject of light and its properties are: (1) In the first cycle, the subject of light and its properties is taught. (2) Collecting data using instrument I. (3) Reflection: In this activity, the writer analyzes the test results in Cycle I and identifies the advantages and disadvantages of learning based on the observations of peers based on the results of the test analysis and the identification is carried out to prepare for the next stage. Based on the average grade obtained from the first cycle of 60, the absorption level has not reached the minimum target of complete learning (Mastery Learning), because the absorption level obtained has only reached 50%, while the minimum target of complete learning achievement must be around 70% level. absorption obtained by students. Explanation Lack of learning activities in the first cycle are: (1) Students in learning are still noisy. (2) Students are still confused in working on practice questions that require mastery of learning materials. (3) Students find it difficult to understand the concept of light and its properties. To measure the success rate of learning improvement activities for science subjects in cycle II, it can be seen from the results of the evaluation by referring to the value obtained by each student. The percentage of test scores obtained in cycle II can be seen in the following table:

Table 2. The Percentage of Test Scores

No	Score (N)	Students (S)	N x S	Percentage (%)
1	100	7	700	24,137931
2	90	4	360	13,7931034
3	80	7	560	24,137931
4	70	8	560	27,5862069
5	60	3	180	10,3448276
Total		29	2.360	100

The highest score for the test in the second cycle is 100 as many as 7 people, the lowest score for the test in the second cycle is 60 as many as 3 people, the average value of the test results class in the second cycle is as follows:

$$\text{Average Value} = \frac{\sum \text{Score}}{Students} = \frac{2.360}{29} = 81{,}3793103 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(1)$$

Based on the data in the table above, it can be concluded that the scores in the second cycle test post were 3 students who scored 60 or 10.3448276% and 8 students who scored 70 or 27.5862069%. and who got a score of 80 were 7 people or 24.137931%. and those who got a score of 90 were 4 people or 13.7931034% and those who got a score of 100 were 7 people or 24.137931%. After making improvements to the results of observations with the application of the demonstration method, there are improvements, namely: (1) Students in learning are not noisy. (2) In science lessons using the demonstration method, students use the props provided so that they can understand the concept of light. (3) Students can do the questions well. Discussing before and after making improvements to each cycle, the authors received responses from colleagues on the learning process carried out by the author for science subjects, namely: (1) In the improvement of the first cycle of science subjects who scored below 60 there were 10 students. (2) After repairing cycles I and II, all students experienced an increase. (3) There is no declining performance.

DISCUSSIONS

After carrying out science learning in the second action with the application of the demonstration method. Researchers can discuss it as follows: (1) The post-test results have increased when compared to the results of the first test with an average score of 60.25 and have not reached the pass limit while in the second action the average value is 81.3793103 or 81.38 and all students reach the pass mark. (2) At the time of making the group table formation, the students were organized and the class atmosphere was not noisy. Students begin to dare to appear trying props, Students have begun to understand the concept of the properties of light with the help of science props that are demonstrated. All students compete to get an average score that reaches the pass limit and gets praise from the teacher. Based on the results of the scores, it has provided evidence that the principle of Classroom Action Research (CAR) as an alternative for teachers in an effort to improve learning processes and outcomes is very

adequate to be applied in every classroom learning activity. Through CAR, it is also very easy for teachers to control weaknesses or deficiencies in implementing learning strategies and methods by collaborating with colleagues through observation. Besides, based on experience in implementing learning improvements through CAR, it is necessary to form a teacher working group (KKG), so that each teacher can exchange ideas in the KBM experience so that they can solve problems faced by teachers in their daily teaching tasks.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the implementation of learning in science subjects with the subject of light and its properties through the application of the demonstration method that the author has done, it can be concluded that: (1) The application of the demonstration method is proven to increase creativity and student learning outcomes. (2) The results of the learning implementation showed that the ability of students increased significantly after using the demonstration method. (3) The activities of students during the learning process after the application of the demonstration method showed positive changes as evidenced by the activeness and direct involvement of students physically, mentally, emotionally, abilities, and intellectually. (4) Active, creative learning with the application of various methods so that students are more interested in learning a lesson requires continuity between one subject matter and the next subject matter. The recommendations that the author conveys to educators and schools are: (1) Educators should look for various approaches, methods, and ways that are more varied in carrying out their learning activities. (2) Schools should support activities that can foster children's creativity both morally and materially. (3) The author recommends that this kind of activity can also be implemented in other subjects.

FURTHER STUDY

Some of the obstacles and limitations faced by the author during the implementation of learning activities are: (1) In the learning process there are still some students who do not pay attention to the explanation from the teacher. (2) In learning activities, teachers have not been maximal in involving students. (3) There are some students who are still unable to explain the matter of light and its properties. From the explanation above, the authors use several ways that can be done to overcome the obstacles that occur during the implementation of learning, namely by: (1) The use of demonstration methods, discussions, questions and answers and assignments in the implementation of learning with the aim of increasing motivation and enthusiasm for learning learners. (2) Maximizing the use of interesting media or learning tools. (3) Use of clear and interesting LKPD stages. (4) Designing group assignments more maturely. Here the author acts as a task coordinator who must design a series of tasks (project description) that contains activities that must be carried out by project member students in order to master the competencies that have been set.

ACKNOWLEDGMENTS

By giving praise and thanks to God Almighty. The author can complete the preparation of research reports or journals with the title "The Effectiveness of Demonstration Methods to Improve Student Learning Outcomes". This research report or journal is prepared based on the results of practice in class V SDN 1 Cikeris, Bojong District, Purwakarta Regency. With all the capabilities and limitations, the author tries to carry out this practical task as much as possible. With the help of all parties, this research report can be completed or even though it is far from being perfect, the author tries to compile it with his own abilities. With the preparation of this research report or journal, the author expresses his gratitude to those who have provided guidance during the preparation to completion and on this occasion allow the author to thank the honorable: (1) Mrs. Nina, S.Pd. as the Principal of the State Elementary School 1 Cikeris where the author serves. (2) The teaching staff and education staff of SD Negeri 1 Cikeris where the author serves. (3) The fifth grade students of SD Negeri 1 Cikeris where the author conducted the research. (4) Beloved wife, both parents and family who have provided motivation and support during the work of this research report or journal. May all the goodness that you have given will be a charity of worship for all of us. Amen.

REFERENCES

Anitah, Sri., (2008). *Strategi Pembelajaran di SD*. Jakarta: Universitas Terbuka.

Hermawan Ruswandi, dkk.(2010). *Metode penelitian pendidikan SD*. Bandung: UPI Press.

Joni, T. R. (1992/1993). *Pendekatan cara belajar peserta didik aktif: acuan konseptual peningkatan mutu kegiatan belajar-mengajar*. Jakarta: Departemen Pendidikan dan Kebudayaan.

Karli, H. (2004). *Implementasi Kurikulum Berbasis Kompetensi*. Bandung: Bina Media Informasi.

Mulyatiningsih, Endang. 2011. *Metode Penelitian Terapan Bidang Pendidikan*. Bandung: Alfabeta.

Taufiq, Agus., Miharsa, Hera L., Prianto, Puji L., (2008). *Pendidikan Anak Di SD*. Jakarta: Universitas Terbuka.

Wardani, I.G.A.K. (2005). *Materi Pokok Penelitian Tindakan Kelas*. Jakarta: Universitas Terbuka.