

Improving Learning Outcomes of SD Negeri 4 Sembawa Students on Materials in Various Styles of Science Subjects Using Demonstration Methods

Santi Utami Rahayu¹

¹SD Negeri 4 Sembawa, South Sumatra, Indonesia

Corresponding author e-mail: santiutami857@gmail.com

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Abstract: This research was motivated by low student learning outcomes and not meeting the specified minimum completeness criteria, namely ≥ 70 . This research aims to improve the learning outcomes of Class IV students at SDN 4 Sembawa in science subjects with various styles of material using the demonstration method. The research subjects were class IV with a total of 25 students. The implementation of this learning improvement uses the classroom action research stages which consist of design, implementation, data collection and reflection in two cycles, namely Cycle I and Cycle II. This research succeeded in increasing the average student scores from cycle I and cycle II. In cycle I there were several students who did not exceed the minimum completeness criteria, namely 8 students with a ratio of 32%, while 17 students exceeded the minimum completeness criteria with a ratio of 68%. In cycle II, many students did not exceed the minimum completeness criteria, namely 3 students with a ratio of 12%, while 22 students exceeded the minimum completeness criteria with a ratio of 88%. These results show that by using the demonstration method, students' science learning outcomes increase.

Keywords: Demonstration Methods, Learning Outcomes, Various Styles

A. Introduction

Science learning has special characteristics based on the function and objectives of science itself. Science is a subject that exists at every level of education, from primary education to higher education. According Sapriati (2022), science learning is a process where learning experiences are offered to students through planned activities so that students gain competence in the science they will study. Science subjects need to be given to all students starting from elementary school to equip students with the ability to think logically, analytically, systematically, critically and creatively and be able to work together. Science learning at the primary school level is certainly different from secondary or higher education.

Based on the statement above, science learning objectives not only regulate cognition, but also have formal objectives. Therefore, there must be science learning

that develops affective values. A theory of science learning at the elementary school level was expressed by Heruman (2008), who's that in the learning process it is hoped that reinvention will take place informally in the classroom and there must be a relationship between concepts. This allows students to learn meaningfully. The meaningfulness of learning will make learning activities more interesting, more useful and more challenging, so that science concepts and procedures will be easier to understand and will be remembered longer by students. the application of the demonstration method assisted by PhET software animation media on student learning outcomes in dynamic electricity material in class improve student learning outcomes in dynamic electrical material with a medium effectiveness category (Nurhayati et al., 2014).

According Anita (2021) learning can be interpreted as an effort to see, do, observe, solve problems, listen and practice. Meanwhie Herawati (2018), states that the meaning of learning has a very complex meaning so that it is difficult to state with certainty what learning really is. According to Anita (2021) states that learning is a mental and emotional effort or an effort to think and feel. The act of thinking and feeling alone is invisible to others. However, those involved knew it. Learning is knowledge in the sense of learning in individual relationships with their area, both physical and social areas.

According Anita (2021) states that learning outcomes are said to be the culmination of learning. Learning outcomes are in the form of student behavior changing or strengthening their behavior, or in the form of knowledge, skills or values attitudes. Meanwhile, according Sukoco (2018)states that the impact of learning is a number of consequences that can be used as an indication of the value of using learning strategies. According Hernawan (2021), learning outcomes are the result of interactions between student learning and teacher teaching actions. Meanwhile, according Rusman (2017), learning outcomes are the number of experiences students have, covering the cognitive, affective and psychomotor domains. Learning outcomes are skills achieved by students after learning to teach. Based on researchers' observations, it was found that science education in elementary schools is still teacher-centered, so that students become passive. This results in low learning outcomes and not reaching the specified the minimum completeness criteria, namely ≥ 70 . Not a few students think that science is one of the most difficult subjects compared to other subjects. Therefore, science lessons are boring and students don't like them, so teachers need to make improvements to improve learning outcomes. One of them is conducting classroom action research and implementing learning innovations using different learning methods, such as demonstration methods.

According Sardjijo (2021), methods are skills that a teacher must have when providing learning material to students. According to Hamdani (2017), learning methods are ways of delivering instructions to students. Meanwhile, according Jumanta (2016), learning methods are general teaching methods that can be applied

to all subjects. A learning method is a method or strategy applied by a teacher in such a way that a learning process takes place within students to achieve goals. The types of learning methods are as follows: 1) lecture, 2) demonstration, 3) discussion, 4) simulation, 5) assignments and recitations, 6) question and answer, 7) group work, 8) problem solving, 9) team system (team teaching), 10) training and 11) field trips. The demonstration method is one method that teachers can use.

The demonstration method is a method that is quite effective because it helps students to find answers with their own efforts based on correct facts or data. According Anita (2021), the demonstration method is a teaching method in which learning material is presented directly by presenting objects or ways of doing something so that it can be learned as a process. According Shoimin (2016), the demonstration method is a teaching model by demonstrating items, events, rules and the sequence of carrying out an activity, either directly or through the use of teaching media that is relevant to the subject matter or material being presented. Meanwhile, according Huda (2017) states that the demonstration method is a teaching strategy in which the teacher shows all students an original object, imitation, or process of the material being taught. The demonstration method can improve students' understanding of science learning material on the properties of light in class V at SDN Majalengka Kulon V (Dede et al., 2018).

Demonstrations can also be used in all subjects according to the subject and learning objectives to be achieved. By using the demonstration method, it is hoped that we will be able to present learning that is appropriate and in accordance with students thinking processes. The enthusiasm is shown by the students' willingness to be more active in asking questions, active in carrying out tasks given by the teacher, concentrating more and playing an active role during the learning process (Wiranty, 2020). Learning outcomes after learning were obtained physics using demonstration methods equipped with environmental media in class VIII-B at SMP Negeri 13 Jember experienced an increase in each cycle, (Setiyawan, 2012). This method provides an opportunity for students to work together in analyzing social situations, especially problems involving relationships between students personalities (Endayani et al., 2020). The use of the demonstration method with the number line bridge props had an effect on the learning outcomes of class IV students at SDN 2 Belawa. The magnitude of the effect based on the determination test is 65% (Arifuddin & Arrosyid, 2017).

The next hope is that students do not feel anxious, bored and lazy to study and increase their interest in learning science. Science is no longer a difficult subject, but it is easy for students to learn science. If all this is true, then it is possible that student achievement in science subjects will increase. This is because in traditional learning, teachers do not involve students in the learning carried out. Application of the Demonstration learning model supported by video learning media can improve skills. reading poetry to fourth grade students at SDN Summersari 1 Malang (Sari et

al., 2019). Therefore, teachers must try to involve students so that students participate actively in the teaching and learning process. Especially in the characteristics of elementary school students, which according Hernawan (2022) each student has different characteristics from each other. This of course requires teachers to carry out learning that can accommodate students' differences. Based on the grouping of children's cognitive development according Felicia (2022) so fourth grade elementary school students aged between 10 - 11 years, are in the concrete operational period.

At this stage, knowing the various differences that exist can help teachers take an attitude or step in an effort to improve the quality of learning which is reflected in student learning outcomes, one of which is by implementing the demonstration method, where the child is invited to think concretely by learning about something. concepts carried out by discussing together and demonstrating the results of the discussion in learning. Based on the description above, the researcher chose a title to improve the quality of class IV in the learning process, namely "Effort to Improve Learning Outcomes of Class IV Students of SDN 4 Sembawa on Material in Various Styles of Science Subjects Using Demonstration Methods".

B. Methods

Classroom action research design was used as the design in this research. This research is research conducted by teachers in their own classes through reflection on previous learning with the aim of improving teacher performance, so that student learning outcomes can improve. Class IV students at SDN 4 Sembawa, totaling 25 students, were the research subjects. This research was carried out on March 21 until April 4 2023 at SDN 4 Sembawa.

Table 1. Research Implementation Schedule

| Cycle | Subject matter | Implementation |
|--------------|-----------------------|------------------------|
| Pre Cycle | Various Styles | Tuesday, March 21 2023 |
| Cycle I | Various Styles | Tuesday, March 28 2023 |
| Cycle II | Various Styles | Tuesday, April 4 2023 |

Based on the pre-cycle results, it can be concluded that students understanding of SDN 4 Sembawa class IV is still low in learning science. This can be seen from the initial condition of the student test results obtained by the researchers, namely an average of 65 and 9 students who completed. There are still many students who have not reached the the minimum completeness criteria. Based on the test results, the researcher applied the demonstration method to material in various styles to improve learning outcomes. The researcher carried out improvements with the help of senior teachers, where the implementation of improvements was carried out in two cycles, namely, cycle I and cycle II which consisted of several stages (planning,

implementation, data collection and reflection) in each cycle. The techniques used in collecting data at the classroom action research are tests and non-tests. The test used is a formative test. The formative test aims to measure the level of achievement of students at SDN 4 Sembawa class IV in the cognitive domain and is carried out at the end of cycle I and cycle II. The non-test in this research is observing students activities in participating in learning using the demonstration method.

The data analysis technique used is quantitative analysis. Quantitative analysis is used to describe various dynamics of progress in student learning outcomes. The quantitative data for this research was obtained by calculating the class average score from the test results given to students and the percentage value of the students' learning outcomes.

C. Results and Discussion

The results of this research are broadly divided into two, namely pre-action results or cycle 0 and results after action (cycle I and cycle II) which were obtained and analyzed descriptively and quantitatively. With the help of colleagues, students' activities in participating in science learning material in various styles are assessed and recorded using an observation sheet of student's activities during the learning process. The results of the observations at each meeting are then summarized. At the end of each cycle, an evaluation is held with the supervisor. The implementation of cycle I was carried out on Tuesday, March 28 2023 in class IV at SDN 4 Sembawa. The core activity in cycle I is that at this planning stage, the researcher prepares the science learning process through the demonstration method. Apart from that, researchers also create learning tools, design activities to apply the demonstration method. Cycle I activities will be carried out on the subject of various styles.

During learning activities, observations are made regarding teacher and student activities. Those who act as observers of teacher activities are senior teachers who are tasked with observing the learning process during the learning process using the demonstration method. Based on the results of observing teacher activities in cycle I, it can be seen that the total score obtained was 30 with an average of 4,29. Meanwhile, those who act as observers of student activities are colleagues who are tasked with observing the learning process during the learning process using the demonstration method. The results of observations of student activities in cycle I showed that the average value of student activities in cycle I was 58,4, which was in the sufficient category.

After the lesson was completed, the researcher gave a test to see the extent of the students' ability to understand the material studied. Based on the tests carried out, the number of students who completed the test increased to 17 students with a complete presentation of 68%, while 8 students did not complete the presentation with a presentation of 32%.

Table 2. Cycle I Student Cognitive Learning Results

| | Complete | Not Completed |
|------------------------|-----------------|----------------------|
| The number of students | 17 | 8 |
| Presentation | 68% | 32% |

Based on the learning outcomes tests that have been given to students in the cognitive domain, there are several errors found on the student answer sheets. From the results of the first cycle reflection, it was concluded that the implementation of the first cycle of student learning outcomes was still low and had not yet reached completeness. This is because there are several shortcomings in the learning process, including that there are still many students who do not understand the lesson material presented, as can be seen in the test questions given. There are still many students who answer the test questions incorrectly. Students also pay less attention to teacher explanations and are reluctant to ask questions about material they do not understand. Therefore, there needs to be an improvement in action in the process to improve student learning outcomes that optimize the learning process.

The stages carried out in cycle II are basically the same as cycle I. The implementation of cycle II was carried out on Tuesday, April 4 2023 in class IV at SDN 4 Sembawa. Learning outcomes in cycle II can be better than learning outcomes in cycle I because the teacher has made learning improvements in cycle I. Learning activities in cycle II will be carried out with the same material, namely Various Styles. During the learning process, the results of observations of teacher activities in cycle II increased with a total score of 33 with an average of 4.29. Meanwhile, the results of the student activity observation sheet in cycle II showed that student learning activities were effective and had increased in all aspects observed. The average score for student activities in cycle II, namely 80, is in the good category. After the lesson was completed, the researcher gave a test to see the extent of the students' ability to understand the material studied. Based on the tests carried out, the number of students who completed the exam increased to 88% with 22 students. Meanwhile there are 3 students who have not yet completed the the minimum completeness criteria.

Table 3. Cycle II Students' Cognitive Learning Results

| | Complete | Not Completed |
|------------------------|-----------------|----------------------|
| The number of students | 22 | 3 |
| Presentation | 88% | 12% |

From the results of observations made by researchers, it can be concluded that cycle

It has gone according to plan and is in line with expectations, although there are still some students who have not completed it. The demonstration method aims to show the process of an event occurring according to the teaching material, how to achieve it and how easily it can be understood by students in classroom teaching. Learning using the demonstration method makes it very easy for students to understand the lesson. The initial condition of the test results for class IV students at SDN 4 Sembawa obtained by researchers was an average score of 65 and only 9 students completed it. Student learning outcomes are still relatively low. There are still many who have not reached the minimum completion criteria. Based on the initial conditions of the student learning test results, the researcher used a demonstration method on various styles of material to improve student learning outcomes. Researchers with the help of senior teachers carried out actions, where the actions were carried out in two cycles, namely cycle I and cycle II.

Based on the results of research that has been carried out, the learning outcomes of class IV students at SDN 4 Sembawa have increased. In cycle I, the results of observations of student activities in the learning process, students were still less active, namely when students were asked to ask questions, no one dared to ask. In cycle I, the results of observing student activities in the learning process were in the sufficient category with an average score of 58.4. Meanwhile, from observations of teacher activities, in cycle I there were still aspects that had not been implemented well so that the total score obtained was only 30 with an average of 4,29.

Apart from that, in the first cycle the test results showed that students' understanding had increased, namely to an average of 72, with 17 students with a percentage of 68% who achieved completeness. However, at this stage of the cycle it is said that it has not reached optimality because the results achieved are still below 85%. So it is necessary to carry out further improvements in the process to improve student learning outcomes by optimizing the learning process, namely cycle II. In cycle II, the results of observing student activities have increased, such as analysis during group work and using the demonstration method. In cycle II it was in the good category with an average score of 80. Meanwhile in cycle II the results of observations of teacher activities increased because the total score obtained became 33 with an average of 4,71. Meanwhile, student test results experienced an average increase of 80 and a completion rate of 88%, with 22 students completing and 3 students not completing. This shows that further action does not need to be taken again because it has reached the expected criteria.

Based on the explanation outlined previously, the research results show that the use of demonstration methods in various styles of material can improve students' cognitive learning outcomes with an average final student score of 80 and a percentage of students who complete 88%. This shows that the use of the demonstration method in various styles of material has a positive impact in improving student learning outcomes, based on previous researchers' findings and

the results of data analysis that learning through the demonstration method can improve learning outcomes from problem solving. Learning using the demonstration method has an important role as an effort to improve student learning outcomes, so the application of the demonstration method that has been carried out by researchers can improve student learning outcomes in science subjects covering various styles in class IV SDN 4 Sembawa.

D. Conclusions

Based on research and evaluation of science learning outcomes using the demonstration method in class IV of SDN 4 Sembawa on the material "Various Styles" it can be concluded that there has been an increase in learning outcomes from Cycle I to Cycle II. Where in the learning before action was given, the completion percentage was only 36%, namely the number of students who completed it was 9 students out of 25 students. Then, in cycle I it increased to 68% with the number of students completing 17 students out of 25 students. Furthermore, in Cycle II the completeness of student learning outcomes increased again, namely to 88% consisting of 22 students who completed out of 25 students. This science learning can be said to be successful because it meets the learning completeness requirements of more than 85% using the demonstration method. Conclusion should be written in very clear words. It should explain how the objectives of the study were accomplished.

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References

- Anitah, S. dkk. (2021). *Learning Strategies in Elementary School. Tangerang Selatan*.
- Arifuddin, A., & Arrosyid, S. R. (2017). The Influence of the Demonstration Method with the Number Line Bridge Visual Tool on Mathematics Learning Outcomes in Integer Material. *Al Ibtida: Jurnal Pendidikan Guru MI*, 4(2), 165. <https://doi.org/10.24235/al.ibtida.snj.v4i2.1834>
- Arifuddin, A., Maufur, S., & Farida, F. (2018). The Effect of Applying Puzzle Props Using the Demonstration Method on Student Learning Motivation in Mathematics Learning in Elementary/MI. *Jurnal Ilmiah Sekolah Dasar*, 2(1), 10. <https://doi.org/10.23887/jisd.v2i1.13721>
- Dede, N., Salim., Afriyuni, Y., Devi, & Fauziah, A., Nurul. (2018). Efforts to Improve Students' Understanding of Concepts through the Application of Demonstration Methods in Science Subjects. *Jurnal Cakrawala Pendas*, 4(2), 9-16.

- Endayani, T., Rina, C., & Agustina, M. (2020). Demonstration Method to Improve Student Learning Outcomes. *Al - Azkiya : Jurnal Ilmiah Pendidikan MI/SD*, 5(2), 150-158. <https://doi.org/10.32505/al-azkiya.v5i2.2155>
- Felicia, N. (2022). *Student Development*.
- Hamdani. (2017). *Teaching and Learning Strategies*.
- Herawati. (2018). *Understanding Child Processes*.
- Hernawan, A. H. dkk. (2021). *Integrated Learning in Elementary School*
- Hernawan, A. H. dkk. (2022). *Curriculum and Learning Development*.
- Heruman. (2008). *Mathematics Learning Model in Elementary Schools*.
- Huda, M. (2017). *Teaching and Learning Models*.
- Jumanta, H. (2016). *Teaching Methodology*.
- Nurhayati, N., Fadilah, S., & Mutmainah, M. (2014). Application of the Demonstration Method Assisted by Phet Software Animation Media on Student Learning Outcomes in Dynamic Electricity Material for Class X Madrasah Aliyah Negeri 1 Pontianak. *Jurnal Penelitian Fisika Dan Aplikasinya (JPFA)*, 4(2), 1. <https://doi.org/10.26740/jpfa.v4n2.p1-7>
- Rusman. (2017). *Educational Process Standards Oriented Study and Learning*
- Sapriati, A. dkk. (2022). *Science learning in elementary school*.
- Sardijjo, I. (2021). *Pendidikan IPS di SD. Tangerang Selatan*.
- Sari, Y. D. K., Chamisijatin, L., & Santoso, B. (2019). Improving the Poetry Reading Skills of Class IV Students Using a Demonstration Model Supported by Learning Video Media at SDN 1 Summersari, Malang City. *Refleksi Edukatika : Jurnal Ilmiah Kependidikan*, 9(2). <https://doi.org/10.24176/re.v9i2.3181>
- Setiyawan, R. T. & Sutarto, S. (2012). Meningkatkan Aktivitas dan Hasil Belajar Fisika dengan Metode Demonstrasi yang Dilengkapi Media Lingkungan pada Siswa Kelas VIII B SMP Negeri 13 Jember. *Jurnal Pembelajaran Fisika*, 1(2), 206-211.
- Shoimin, A. (2016). *Innovative Learning Models in the Curriculum*.
- Sukoco. (2018). Application of the Demonstration Method to Increase Students Understanding of the Properties of Light in Class III Science Subjects at SD 6 Tungkal Ilir.
- Wiranty, W. (2020). Application of the Demonstration Method to Improve Students' Ability to Read Poetry. *Jurnal Edukasi*, 15(2), 284-294.