



LKPD-BASED LEARNING TO IMPROVE SCIENCE LEARNING OUTCOMES OF GRADE IV SD/MI STUDENTS

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui apakah pembelajaran berbasis LKPD dapat meningkatkan hasil belajar IPA siswa kelas IV. Penelitian ini merupakan Penelitian Tindakan Kelas (PTK) dengan menggunakan model Kemmis dan Taggart, dengan subjek penelitian sebanyak 25 siswa kelas IV SD Negeri Demangan dan 1 guru kelas. Penelitian ini dilakukan dalam 2 siklus yang terdiri atas perencanaan, pelaksanaan, observasi, dan refleksi. Instrumen penelitian meliputi lembar observasi, perangkat pembelajaran, Lembar Kerja Peserta Didik (LKPD), kisi-kisi soal post-test, dan lembar soal post-test. Metode pengumpulan data terdiri atas tes pada akhir setiap siklus dan non-tes berupa observasi, wawancara, serta dokumentasi. Teknik analisis data meliputi analisis data kualitatif terhadap aktivitas siswa dan guru serta analisis kuantitatif terhadap hasil belajar siswa di akhir setiap siklus. Indikator keberhasilan dalam penelitian ini adalah: (1) memperoleh nilai \geq KKM, yaitu 71; (2) mencapai ketuntasan klasikal apabila 85% dari jumlah siswa memperoleh nilai \geq KKM. Aktivitas siswa selama pembelajaran meningkat, dari rata-rata 73% pada siklus 1 (kategori tinggi) menjadi 89% pada siklus 2 (kategori sangat tinggi). Hasil belajar siswa menunjukkan rata-rata nilai hasil belajar pada siklus 1 sebesar 71,7, yang meningkat menjadi 84,5 pada siklus 2. Peningkatan rata-rata nilai hasil belajar siswa telah melampaui nilai KKM yang ditetapkan sekolah, yaitu 71. Persentase ketuntasan belajar klasikal siswa pada pra-siklus adalah 36%; pada siklus 1 meningkat menjadi 67%; dan pada siklus 2 mencapai 88%. Ketuntasan klasikal siswa sebesar 88% pada siklus 2 telah melampaui kriteria ketuntasan minimum yang ditetapkan, yaitu 85%. Hal ini menunjukkan bahwa pembelajaran berbasis LKPD dapat meningkatkan hasil belajar IPA siswa kelas IV SD Negeri Demangan.

Kata Kunci: pembelajaran IPA, LKPD, hasil belajar.

ABSTRACT

This study aims to determine whether LKPD-based learning can improve science learning outcomes for grade IV. This type of research is Classroom Action Research (CAR) using the Kemmis and Taggart model, with the research subjects being 25 grade IV students of SD Negeri Demangan and 1 class teacher. This research was conducted in 2 cycles consisting of planning, implementation, observation, and reflection. The research instruments consisted of observation sheets, learning devices, student worksheets (LKPD), post-test question grids, and post-test question sheets. Data collection methods consisted of tests at the end of each cycle and non-tests consisting of observation, interviews, and documentation. Technical data analysis consisted of qualitative data analysis on how students and teachers' activities were and quantitative analysis on the learning outcomes achieved by students at the end of each cycle. The indicators of success in this study were: (1) obtaining a score \geq KKM, which was 71; (2) achieving classical completeness if 85% of the total number of students obtained a score \geq KKM, which was 71. Student activity during learning has increased, from an average of 73% in cycle 1 with a high category to 89% in cycle 2 with a very high category. Student learning outcomes show an average value of learning outcomes in cycle 1 of 71.7, and in cycle 2 it has increased to 84.5. The increase in the average value of student learning outcomes has exceeded the KKM value set by the school, which is 71. The classical percentage of student learning



completion in the pre-cycle was 36%; in cycle 1, it increased to 67%; and in cycle 2, it reached 88%. The classical completion of students who reached 88% in cycle 2 has exceeded the minimum completion criteria set, which is 85%. This means that LKPD-based learning can improve the science learning outcomes of grade IV students of SD Negeri Demangan.

Keywords: science learning, LKPD, and learning outcomes.

INTRODUCTION

Permendikbud No. 22 of 2016 states that the learning process in educational units is carried out interactively, inspiringly, challengingly, and enjoyably and motivates students to participate actively (Tim Penyusun Pusat Bahasa Depdiknas, 2008). The implementation of the learning process is essentially to develop the skills, character, creativity, and interests of students through interaction and learning experiences (Suleman & Idayanti, 2024). The curriculum applies the learning process by referring to the discovery of basic concepts by instilling a scientific attitude in students in three domains consisting of attitudes, knowledge, and skills (Janah & Widodo, 2018). This scientific attitude is needed in science learning to obtain scientific products in the form of facts, concepts, and theories to foster curiosity, honesty, responsibility, discipline, hard work, and tolerance (Rahayu, 2019).

Teachers are obliged to create an effective learning process while still paying attention to the components of learning, one of which is choosing the right learning method (Suleman, 2024). The learning process without using learning methods will have an impact on student learning outcomes, which are classified as low and do not achieve the Minimum Completion Criteria (KKM) set by the school (Mastika Yasa & Bhoke, 2019). Based on the results of observations on the science learning process at SD Negeri Demangan, the results of the Learning Evaluation (EP) in the even semester were found to have been carried out 3 times and 1 time for the Final Theme Exam (assessment). Learning evaluation 1 showed that 6 students had met (24%), 15 students had not met (60%), and 4 students did not take part in the evaluation (16%). Learning evaluation 2 showed that 9 students had met (36%), 4 students had not met (16%), and 12 students did not take part in the evaluation (16%). Learning evaluation 3 shows that 11 students have fulfilled (44%), 4 students have not fulfilled (16%), and 10 students did not participate in the evaluation (40%). The Final Theme Exam (assessment) shows that 8 students have fulfilled (32%), 14 students have not fulfilled (56%), and 3 students did not participate in the evaluation (12%).

The instability of students' science learning outcomes is caused by the broad scope of the material, students who only rely on memorization so that they forget basic concepts, learning methods that are still student-centered, and minimal field practice due to the limited PTM situation. This also hinders students' ability to think critically about information and relate it to everyday life (Fatmawati & Sujatmika, 2018). Critical thinking skills are important to develop because they are one of the life skills to help students solve problems (Aji & Mediatati, 2021). Critical thinking skills are included in the 21st century skills called four CS or 4C. This ability is important for students to have not only in school but in everyday life, which is used to find contextual meaning and make decisions from various points of view carefully and logically (Nurbaya, 2021). This ability is not only limited to exams, assignments, or other forms of evaluation at the end of learning, but in the learning process in order to form students who are creative, critical, and solve problems (Lestrai et al., 2021).

LKPD, or sheet-based learning, is a learning method where students work on and solve authentic problems with the aim of developing independence and self-confidence, compiling their own knowledge, and higher-level thinking skills (Djonomiarjo, 2020). This method focuses on solving real problems where students carry out group work and discussions (Utari, 2021). Thus, this method focuses on students conducting research, integrating theory and

practice, and applying knowledge and skills to develop their own knowledge through problems with high-level thinking or high-order thinking skills.

The selection of LKPD can be an effort to improve student learning outcomes in three areas, namely, knowledge (cognitive), attitude (affective), and skills (psychomotor) (Rahman, 2022). Learning outcomes are patterns of behavior, attitudes, appreciation, values, understandings, and skills that can be in the form of verbal information, intellectual skills, attitudes, cognitive strategies, and motor skills (Paradina et al., 2019). Learning outcomes also mean a competence or skill that can be achieved by students after going through learning activities designed and implemented by teachers in a particular school or class. (Nurrita, 2018) High and quality learning outcomes can be obtained from a quality learning process, and to produce it, the right learning model is used by the teacher (Nasution, 2017).

From several problems seen in class IV of SD Negeri Demangan, the researcher took one solution that can improve students' science learning outcomes by including LKPD in the learning process. The researcher and teacher agreed to choose LKPD as the choice of action because it is expected to be able to help students understand science concepts or materials in improving learning outcomes. Thus, the researcher took the title "**LKPD-based Learning to Improve Science Learning Outcomes of Class IV SD/MI Students**".

METHOD

This study uses a classroom action research model that refers to the Kemmis and Taggart model. This model is based on 4 main components, which are also stages of implementation. (Mawardi B, 2020), namely: the planning stage, the implementation stage (acting), the observation stage, and the reflection stage. This research was conducted in class IV A of Demangan State Elementary School in the even semester or semester 2. This research lasted for 1 month, starting from February 1-28, with the research subjects being 25 class IV students of Demangan State Elementary School and 1 class teacher who also teaches Natural Sciences (IPA).

The research was conducted in 2 cycles consisting of planning, implementation, observation, and reflection. The research instruments consisted of observation sheets, learning devices, student worksheets (LKPD), post-test question grids, and post-test question sheets. Data collection methods consisted of tests at the end of each cycle and non-tests consisting of observation, interviews, and documentation. Data analysis techniques consisted of qualitative data analysis on students and teachers' activities and quantitative analysis on the learning outcomes achieved by students at the end of each cycle. The indicators of success in this study were: (1) obtaining a score \geq KKM, namely 71; (2) achieving classical completeness if 85% of the total number of students had obtained a score \geq KKM, namely 71.

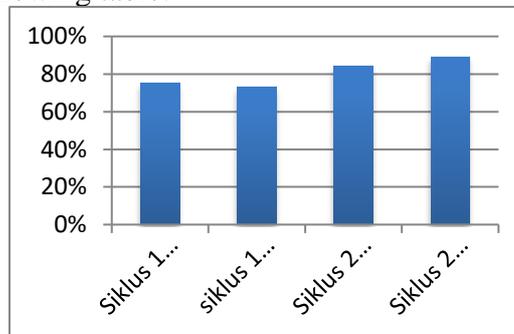
RESULTS AND DISCUSSION

This section deals with the research findings (level one headings). The findings obtained from the research have to be supported by sufficient data. The research results and the discovery must be the answers, or the research hypothesis stated previously in the introduction part. The findings section consists of a description of the results of the data analysis to answer the research question(s). The findings should summarize (scientific) findings rather than providing data in great detail. Please highlight differences between your results or findings and the previous publications by other researchers.

Based on the learning outcome data of the Science Assessment during the pre-cycle implementation, there were 17 students who had not completed the total of 25 with a KKM of 71. The average value of student learning outcomes was 63.18. The percentage of students who had not completed the KKM was 63%, with a total of 14 students who had not completed it.

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The percentage of students who completed the KKM was 36%, with a total of 8 students who had completed it. The percentage of students' classical completion was 36%, which is still far from the minimum completion criteria to be achieved, which is 85%. To improve this, actions were taken in 2 cycles. The results of observations of student activities during the learning process can be seen in the following table:

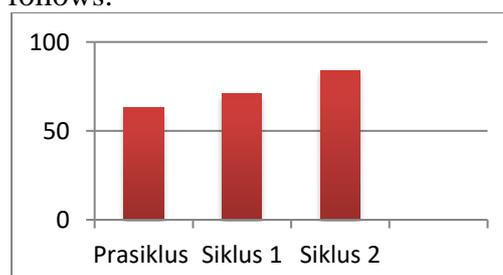


Graphic image of student observation results

Based on the graphic image above, it can be seen that the results of student observations did not increase from the beginning but decreased in cycle 1 meeting 2. The results of student observations in cycle 1 showed an average percentage of 75%, including the high category, with a number of attendance of 18 students, consisting of 10 students in group 1 and 8 students in group 2. At the second meeting, there was a decrease of 2% to 73% in the same category, namely high with the presence of 18 students, consisting of 13 students in group 1 and 5 students in group 2. This decrease occurred in group 2 with decreasing attendance and low activity; in cycle 2 meeting 1, there was an increase of 11% to 84% with a different category, namely very high, with the number of attendance of 8 students. 11 students in group 1 and 7 students in group 2.

At the second meeting, there was another increase of 5% to 89% and remained in the same category, namely very high, with the number of attendance of 18 students. 11 students in group 1 and 7 students in group 2. The implementation of cycle 1 and cycle 2 at meetings 1 and 2 for groups 1 and 2 experienced the same number of attendance, namely 18 students. This shows that with LKPD, student activity has increased from cycle 1 to cycle 2 (Tarigan et al., 2021). Thus, efforts to improve the learning outcomes of grade IV students in science subjects using LKPD have been achieved well, as evidenced by the increase in the average percentage (Putri et al., 2021) and the classical percentage of students in cycle 2, which reached 88%.

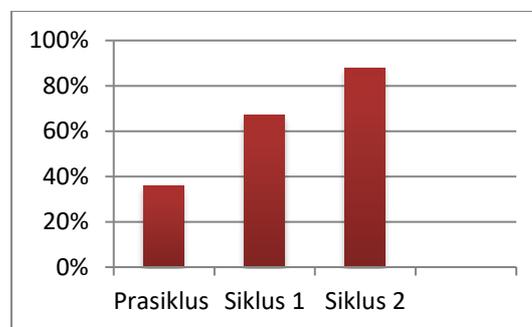
Classroom Action Research (CAR) data for science learning for grade IV of SD Negeri Demangan shows that LKPD-based learning can improve student learning outcomes (Robiyanto, 2021). Improvements in learning outcomes can be seen from the results of the post-test in each cycle at the end of the second meeting. Arikunto stated that a test is a series of questions or exercises used to measure the skills, knowledge, intelligence, abilities, or talents possessed by individuals or groups. This improvement can be seen from the average value of student learning outcomes, as follows:



Graphic image of the increase in the average value of student learning outcomes

Based on the graph, it can be seen that the average value of student learning outcomes has increased. The initial condition of the average value of students in the precycle was 63.18. After being given improvements in cycle 2 with 2 meetings, there was an increase to 71.7. However, because the percentage of classical completion in cycle 1 had not reached the specified completion criteria of 85%, the research continued in cycle 2. In the implementation of cycle 2 with the same number of meetings, namely 2 meetings. The average value of students again increased to 84.05. This achievement coincided with the acquisition of the percentage of classical completion in cycle 2, which had reached the minimum completion criteria of 85%, so the implementation of the research stopped in cycle 2.

The success of students in developing their creativity and potential is seen not only from the increase in the average value of students but also from the increase in learning outcomes. Student learning outcomes have increased from the initial percentage in the pre-cycle to cycle 2. The effectiveness of the application of the PBL learning model can be seen in the graph below.



Graphic image of the increase in learning outcomes in pre-cycle, cycle 1 and cycle 2

In the graph above, it can be seen that there is an increase in learning outcomes in each cycle. The pre-cycle learning outcomes show a percentage of 36% of students who have completed KKM 71, or only 8 students have completed the KKM. After making improvements in cycle 1 in 2 meetings, there was an increase in learning outcomes. The results of the cycle 1 post-test showed a percentage of 67%, or an increase of 31% with the addition of 3 students, so that 11 students out of 18 students who attended completed the KKM 71. The percentage of classical completion of cycle 1 was 67%; this has not met the minimum completion criteria to be achieved, which is 85%. The failure to achieve classical completion of students is because there are students who are less active in several activities or activities in finding solutions to the problems being discussed (Suari, 2018).

Because the percentage of classical completion has not been achieved in cycle 1, the implementation of the study continued in cycle 2. The results of the post-test cycle 2 showed an increase of 21% to 88% with the number of students who completed the KKM reaching 16 students with the number of attendance of 18 students. In the implementation of cycle 2, there were 2 students who had not completed and 7 students who were absent during the implementation of cycle 2. The percentage of classical completion in cycle 2, which reached 88%, has exceeded the targeted learning completion criteria of 85%.

The data answers the problem formulation that LKPD-based science learning can improve science learning outcomes of students at SD Negeri Demangan. (Walfajri & Harjono, 2019) Thus, LKPD-based classroom action research to improve the learning outcomes of students at SD Negeri Demangan in science learning stopped at cycle 2 and was declared successful.

CONCLUSION

The implementation of the research action was carried out in 5 stages, namely student orientation to the problem, organizing students to learn, guiding individual/group experiences, and developing and evaluating the problem-solving process. Student activity during learning increased, from an average of 73% in cycle 1 with a high category to 89% in cycle 2 with a very high category. Student learning outcomes showed an average value of learning outcomes in cycle 1 of 71.7 and in cycle 2 increased to 84.5. The increase in the average value of student learning outcomes has exceeded the KKM value set by the school, which is 71. The classical percentage, or student learning completeness, in the pre-cycle was 36%; in cycle 1, it increased to 67%; and in cycle 2, it reached 88%. The classical completeness of students who reached 88% in cycle 2 has exceeded the minimum completeness criteria set, which is 85%. This means that LKPD-based learning can improve the learning outcomes of grade IV students of SD Negeri Demangan.

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