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THE EFFECT OF STUDENT WORKSHEETS (LKPD) ON THE LEARNING OUTCOMES OF IPAS CLASS IV ELEMENTARY SCHOOL

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Abstract
This study aims to determine the influence of the use of LKPD (Student Worksheet) media on the learning outcomes of grade IV students of SDIT Setya Dharma Cileungsi Bogor in the subject of Natural and Social Sciences (IPAS). Using quantitative research methods, this study involved two groups: an experimental class that used LKPD and a control class that used conventional lecture methods. The research instrument has been tested for validity and reliability, with 30 out of 40 questions declared valid and have very high reliability. Data analysis includes normality tests, homogeneity, and hypothesis tests using independent sample t-tests. The results showed a significant difference between the experimental and control classes, with the average learning outcome of the experimental class (76.12) higher than that of the control class (62.94). The hypothesis test confirmed the significant influence of the use of LKPD on learning outcomes, as evidenced by the t-count value (5.618) > t-table (2.000) and the significance value of 0.000 < 0.05. In conclusion, the use of LKPD media has a significant positive influence on improving student learning outcomes in science and science subjects.
***Keywords**: LKPD; learning outcomes; IPAS*

Abstrak
Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan media LKPD (Lembar Kerja Peserta Didik) terhadap hasil belajar siswa kelas IV SDIT Setya Dharma Cileungsi Bogor pada mata pelajaran Ilmu Pengetahuan Alam dan Sosial (IPAS). Menggunakan metode penelitian kuantitatif, studi ini melibatkan dua kelompok: kelas eksperimen yang menggunakan LKPD dan kelas kontrol yang menggunakan metode ceramah konvensional. Instrumen penelitian telah diuji validitas dan reliabilitasnya, dengan 30 dari 40 butir soal dinyatakan valid dan memiliki reliabilitas sangat tinggi. Analisis data meliputi uji normalitas, homogenitas, dan uji hipotesis menggunakan uji t (independent sample t-test). Hasil penelitian menunjukkan perbedaan yang signifikan antara kelas eksperimen dan kontrol, dengan rata-rata hasil belajar kelas eksperimen (76,12) lebih tinggi dibandingkan kelas kontrol (62,94). Uji hipotesis mengonfirmasi adanya pengaruh signifikan dari penggunaan LKPD terhadap hasil belajar, dibuktikan dengan nilai t-hitung (5,618) > t-tabel (2,000) dan nilai signifikansi 0,000 < 0,05. Kesimpulannya, penggunaan media LKPD memberikan pengaruh positif yang signifikan terhadap peningkatan hasil belajar siswa pada mata pelajaran IPAS.
Kata Kunci: LKPD; hasil belajar; IPAS

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Introduction

The study of living organisms and inanimate objects in nature, as well as their relationships, is known as the Natural and Social Sciences (IPAS). It also looks at the beauty of humans as social animals interacting with their surroundings and as unique individuals. Broadly speaking, science is characterized as an amalgam of diverse information that is organized rationally and methodically while considering the causes and consequences inherent in the learning process. Both social and natural knowledge are included in this knowledge.The

Pancasilan Student Profile, which is a perfect representation of the characteristics of Indonesian students, may be realized through IPAS education. Students' curiosity regarding the phenomena that surround them is piqued by IPAS. Through student-centered learning (also known as student-centered instruction), students' critical thinking abilities may be developed. One of the learning models that can be used in the student-centered learning process (*Student Centered*) is problem solving with a contextual approach.in the learning strategy in the classroom, teachers need to make changes, this is intended so that the learning of science that is being taught by teachers can be easily understood by students. One alternative teaching model that can be combined with a contextual approach is the problem solving model. The use of *problem solving* models in educational activities can help students to have the ability to think in solving certain problems both individually and in groups. The importance of the problem solving model learning strategy with a contextual approach because it puts pressure on the solution of a problem through reasoning through the ability to think. The success of a learning can be measured by the ability of students to understand the learning material, the criterion of learning success is measured by the extent to which students master the learning material delivered by the teacher. Learning can be said to be successful if most students understand learning well.

According to (Ardiansyah & Nana, 2020) explained that "learning outcomes are skills that a person has because of the results of the learning process experience". Meanwhile, Sudjana's opinion referring to Bloom's Taxonomy (Rike and Rasto, 2019) defines "learning outcomes in achievement from the study framework can be obtained through three domains, namely *cognitive, affective, and psychomotor".* This opinion was reinforced by the Father of Indonesian Education, Ki Hajar Dewantara (TArigan et al., 2022) stating that "the essence of learning outcomes is seen from a principle that there are three types of youthful souls, namely creation, taste, and karsa". According to Banjamin Samuel Bloom in (Ina Magdalena, 2020) that "the assessment of a learning outcome seen from competition has limitations can be classified into three domains, namely Cognitive, Affective, and Psychomotor". So that the learning process pays attention to uniqueness, especially related to intelligence. Teachers need to consider the intelligence of the students' learning records, as well as involve diverse student characteristics. One of the efforts that can be made by teachers to reduce learning saturation for students is to develop learning media in various forms of teaching and learning.

Some previous studies that are relevant to researchers such as: (1) Sisra Elfina, and Ike Sylvia (2020) with the title "Development of Student Worksheets (LKPD) Based on Problem Based Learning (PBL) in Improving Students' Critical Thinking Skills in Sociology Subjects at SMA Negeri 1 Payakumbuh". In the study, results were obtained that indicated that LKPD showed pretest and posttest results that had a significant comparison before and after the implementation of LKPD in social science learning activities. (2) Nur Nadifatinisa & Prima Mutia Sari (2021) with the title "Development of Student Worksheets (LKPD) Based on Higher Order Thinking Skill (HOTS) in Science Learning Class V Ecosystem Materials". The results of the media research developed show that the improvement of LKPD on the basis of HOTS obtains very good product quality, so that HOTS-based LKPD is suitable for use in the learning process of science content of class V ecosystem material. (3) I Putu Alvin Radiptha & I Wayan Wiarta (2021) with the title "Development of Problem-Solving Student's Worksheets Based on Flat Building Materials with Mathematics Content in Grade IV Elementary School Students". The results of the media research developed show that the development of problem-solving-based student worksheets has obtained very good qualifications, so that problem-solving-based student worksheets are suitable for use in the learning process.

Teaching materials that can be used to improve student learning outcomes, especially in science and science lessons in grade IV elementary school, are using LKPD. The Student Worksheet (LKPD) is a student worksheet that contains guidelines for students to carry out activities that reflect their skills, processes so that students acquire knowledge or skills that they master. All of this must be researched in order to reduce the problems that exist in this class IV.

Based on the researcher's observations, several problems were found in one of the classes at SDIT Setya Dharma Cileungsi Bogor. Even though SDIT Setya Dharma has adopted an independent curriculum, teachers still rely on the lecture method in learning. In the teaching and learning process, teachers should be interested and actively involved, but in reality teachers' skills in making Student Worksheets (LKPD) are still very monotonous. Teachers tend to only deliver material verbally without good learning planning, so that only a few students can understand the material and achieve high scores. As a result, students often have to learn independently by reading textbooks and solving problems from LKS. Teachers focus more on mastering the material by repeating the content of the book without innovation in media or learning methods that focus on various types of intelligence such as linguistic and spatial-visual. This results in less than optimal interaction between teachers and students, making students less interested in learning. The learning approach used is still of the view that all students are the same. The results can be seen from the learning achievements of grade IV students of SDIT Setya Dharma Cileungsi Bogor, where some students still get scores below the KKM, which is below 70.

Therefore, the researcher intends to use an attractive LKPD to increase student involvement in the learning process. With an engaging LKPD, students can be actively involved because teachers apply all multiple intelligences and have an interest in active learning, so it can help students understand and remember the concepts of learning materials in the long term. The novelty of this study is that the author only researches the influence of LKPD on social studies learning to improve the learning outcomes of grade IV elementary school students. On this occasion, the author is interested in taking the title of the research on: "The Influence of Student Worksheets (LKPD) on Social Studies Class IV Learning Outcomes at SDIT Setya Dharma Cileungsi Bogor".

Research Methods

This study aims "to understand whether or not there is an influence of the Student Worksheet (LKPD) on the learning outcomes of class IV science at SDIT Setya Dharma Cileungsi Bogor". The approach used by the researcher in this study is quantitative - experimental and the research method used *Quasi-Experimental*. In this study, there are 2 (two) classes that are a comparison of the influence of the implementation of multiple intelligences-based learning strategies. The research design used is *a nonequivalent posttest-only control group design.* The total sample of 62 students, there is a control class, namely class IV-B consisting of 31 students and an experimental class, namely class IV-C consisting of 31 students. The purpose of *quasi - experimental* is, "Analyzing conditions that can be achieved through real experiments, but not all important variables can be controlled" (Hermawan, 2019). This method is used to determine whether or not there is a significant influence with the application of multiple intelligences-based learning strategies on student learning outcomes at SDIT Setya Dharma Cileungsi. The following are the details of the research design that will be used:

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Table 1. Research Design

Class	Treatment	Post-test
Eksperimental	X	O1
control	-	O2

Information:

X = Given Treatment (using LKPD)
O_1 = *Post-test* Experimental Class
O_2 = *Post-test* Contol Class

Data analysis is a way or method to process and evaluate the data that has been collected. This is related to the calculation of answering the formulation of the problem and testing the hypothesis proposed. There are several types of statistics used for data analysis in this study, namely data description, analysis requirements test and hypothesis test.

Results and Discussion

In the research carried out at SDIT Setya Dharma in grade IV and has the goal of determining the influence of the use of LKPD media on science and science learning in grade IV of elementary school. This study involves two classes, namely the experimental class and the control class. The experimental class is a class in which LKPD media learning activities and the control class are classes in which social science learning activities use the lecture method without using LKPD. The selection of the Student Worksheet (LKPD) as a learning medium for Natural and Social Sciences (IPAS) is based on various educational theories that support the effectiveness of its use. LKPD allows students to interact directly with the material and work on tasks that require critical thinking, thus helping them develop a deeper understanding through hands-on experience. In addition, active learning theory emphasizes that students learn more effectively when they are actively involved in the learning process, and LKPD is designed to make students actively participate, whether through experiments, group discussions, or problem-solving. Problem-Based Learning Theory encourages students to learn through real problem solving, and LKPDs designed with contextual problems can challenge students to think critically and creatively, as well as connect theory with practice. In addition, contextual learning theory emphasizes the importance of context in the learning process, and LKPD can provide real and relevant context for students, helping them connect what they learn with everyday life.

Then students' motivation increases when they feel they have control over their learning, and the LKPD can be designed to provide appropriate choices and challenges. Students learn more effectively when they work together in groups, and LKPDs are often designed to be used in group settings, promoting collaboration, communication, and social skills among students. The integration of these theories makes LKPD an effective tool in learning science and science, helping students understand and remember learning concepts in the long term.

Before continuing further research, the researcher first tested the validity of the learning outcome test instrument to find out the number of valid instruments. The test of the question instrument at SDIT Setya Dharma Cileungsi Bogor involving 31 students. In this study, a learning outcome test instrument was used that focused on Natural and Social Sciences subjects.

At this stage, the data description will present information about the research location as well as descriptive statistics from the data collected. This data includes learning outcomes in the form of post-test scores and instruments used in each class, namely a multiple-choice test with 30 questions that have been tested and analyzed.

Table 2. Instrument Item Questions for Validity Test

Conclusion	Number of questions	Question No.
Valid	30	2,3,6,8,10,11,13,14,15,17,18,19,20,21,22,23,24,25,26,27,28,29,32,33,34,35,37,38,39
Invalid	10	1,4,5,7,9,12,16,30,31,40

In table 2 above, the questions given consist of 40 multiple-choice questions. Each correct answer is given a score of 1, and each incorrect answer is scored 0. After that, the validity answer results were calculated with the help of the SPSS 25 application using the biserial correlation point test. The value of Item-Total Correlation is compared to the value of the table r for n = 31 at a significant level (α) of 0.05, where the table value of r is 0.355. The question is declared valid if the Item-Total Correlation > r table. Of the 40 questions tested, there were 30 valid questions.

The reliability calculation in this study uses a significant level of α = 0.05 or 0.355. To determine the accuracy and confidence level of the instrument used, the reliability of the multiple-choice question was calculated using Cronbach's Alpha method.

Table 3. Cronbach's Alpha Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0,8712	40

Based on table 3 on the comes about of SPSS 25, the test instrument for learning results of science and innovation fabric in review IV rudimentary school whose unwavering quality was tried appeared Cronbach's Alpha > esteem of the table, which was 0.8712 > 0.355. This shows that each thing of the address is dependable with an awfully tall category and is reasonable for utilize as a inquire about test instrument.

Based on the comes about of the investigate gotten from the learning results of students in science subjects within the control lesson (classes that don't utilize LKPD media), the information comes from the comes about of the post-test in classes IV-B. The most elevated score accomplished was 77, whereas the least score was 47. The normal score of this lesson is 62.94, with a standard deviation of 7.924, a middle of 63, and a mode of 60. Based on the comes about of getting scores within the control lesson, the scores for the post-test can be seen within the table of 4 frequencies underneath.

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Table 4. Control Post-Test Frequency Table

Control Post-Test Frequency Table		
Interval	Frequency	Percentage
47-51	2	6,45%
52-56	6	19,35%
57-61	7	22,58%
62-66	9	29,03%
67-71	1	3,23%
72-77	6	19,35%
Sum	31	100%

From the data of the control class post-test frequency table, it can also be seen in the form of a histogram as follows.

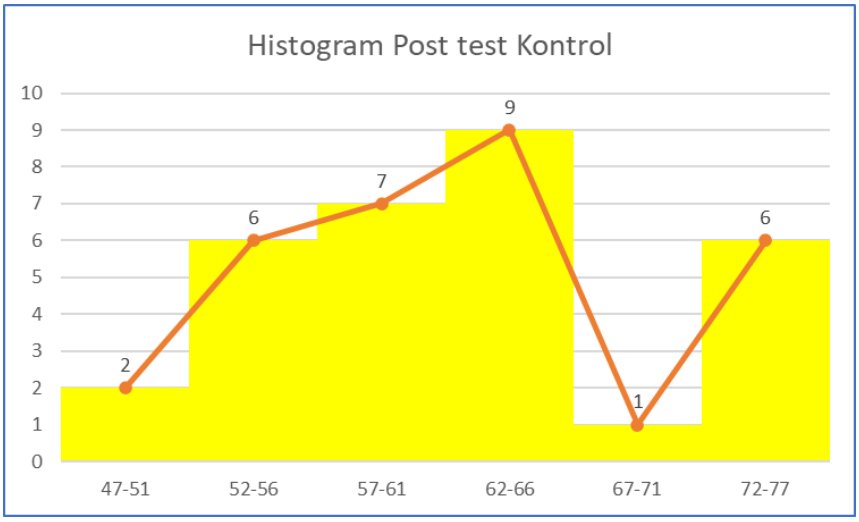

Figure 1. Graphics Histogram Post-tes Control

Based on table 4 frequencies and figure 1 histogram diagram from the post-test test above, the most dominant value is in the interval class 62 - 66 with a relative percentage of 29.03%. Based on the frequency distribution table of social science learning outcomes in the control class, the increase in learning outcomes was declared less significant.

Based on the results of research from student learning outcomes in science subjects in experimental classes (classes that use LKPD media), this data was obtained from the results of post-test in classes IV-C. The highest score achieved was 93, while the lowest score was 50. The average score of this class is 76.12, with a standard deviation of 10.40, a median of 76, and a mode of 80. While the results of obtaining scores in the Experiment class, the scores for the post-test can be seen in the following frequency table.

Table 5. Experiment Post-Test Frequency Table

Experiment Post-Test Frequency Table		
Interval	Frekuensi	Percentage
50-56	2	6,45%
57-63	3	9,68%
64-70	4	12,90%
71-78	7	22,58%
79-85	7	22,58%
86-93	8	25,81%
Sum	31	100%

From the data of the post-test frequency table of the experimental class, it can also be seen in the form of a histogram diagram, which is as follows.

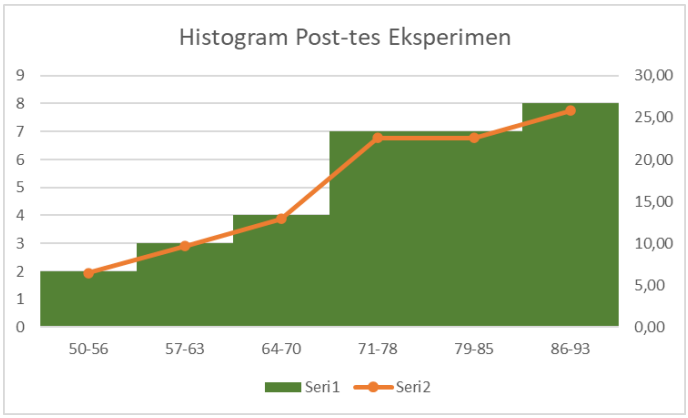

Figure 2. Graphics Histogram Post-tes Control

Based on table 5 frequencies and figure 2 histogram diagram from the post-test test in the experimental class above, the most dominant value is in the interval class 86-93 with a relative percentage of 25.81%. Based on the frequency distribution table, the learning results of science and technology in the experimental class were declared successful.

Therefore, it can be concluded that based on the results of research conducted at SDIT Setya Dharma on grade IV students, there is a significant difference between the experimental class that uses LKPD (Student Worksheet) media and the control class that uses the lecture method in science science learning. This study involved two classes, namely an experimental class that used LKPD media and a control class that used the lecture method without LKPD. Before the study continued, the researcher conducted a validity test of the learning outcome test instrument. Of the 40 multiple-choice questions tested, 30 questions were declared valid for use in the study. The reliability test was also carried out using Cronbach's Alpha method, with a result of 0.8712 which showed that the test instrument was very reliable and feasible to use.

The post-test results showed a significant difference between the control class and the experimental class. In the control class, the highest score achieved was 77 and the lowest score was 47, with an average of 62.94. Meanwhile, in the experimental class, the highest score reached 93 and the lowest score was 50, with an average of 76.12. The frequency distribution of values in the control class showed that the most dominant value was in the interval of 62-66 with a percentage of 29.03%. Meanwhile, in the experimental class, the most dominant score was in the interval of 86-93 with a percentage of 25.81%.

This difference in learning outcomes shows that the use of LKPD media in science and science learning has a positive influence on student learning outcomes. Student Worksheets

(LKPD) are an important component in the learning process that functions as a tool to improve students' understanding and skills. Various definitions and perspectives regarding LKPD have been put forward by education experts, who generally emphasize the role of LKPD as a structured guide for student learning activities. This is in line with the opinion, Putri (2019) defines LKPD as a printed teaching material that contains guidelines to develop students' abilities. This definition emphasizes the function of LKPD as a tool to facilitate the development of student competencies. Meanwhile, Dhari and Haroyono (2021) expanded their understanding of LKPD by describing it as a sheet containing instructions for students in carrying out learning activities. They also highlighted that the LKPD not only contains activity guidelines, but also includes learning objectives, a list of tools and materials needed, activity steps, and various forms of practice questions. In the opinion of Majid (2020), it provides a simpler but still important perspective, by defining LKPD as a sheet of paper that contains orders to work on questions from teachers. This definition emphasizes the practical aspects of LKPD as a tool to provide assignments and exercises to students.

It can be concluded that LKPD is a learning media in the form of printed sheets, which functions as a structured guide for students in carrying out learning activities. The LKPD not only contains practice questions, but also includes learning objectives, activity instructions, and supporting materials that students need to understand the concepts taught. The use of LKPD in the learning process has an important role in measuring learning success. This success can be seen from the extent to which students are able to understand and master the material delivered through LKPD. With clear and structured guidance in LKPD, students are expected to be able to more easily understand the subject matter, develop critical thinking skills, and improve problem-solving skills. According to Karenna, LKPD is an effective learning tool, which not only helps teachers in delivering material, but also encourages students to learn actively and independently. The proper use of LKPD can contribute significantly to improving the quality of learning and achieving optimal student learning outcomes. LKPD allows students to interact directly with the material, develop critical thinking, and gain a deeper understanding through hands-on experience. In addition, LKPD also encourages active learning, where students are directly involved in the learning process through experiments, group discussions, or problem-solving. LKPDs can also be designed to provide real and relevant context for students, helping them connect what they learn to everyday life. The use of LKPD also increases student motivation because they feel they have control over their learning.

In conclusion, this study shows that the use of LKPD media in science and science learning in grade IV elementary school has a positive influence on student learning outcomes. This can be seen from the difference in the average learning outcomes between the experimental class (76.12) and the control class (62.94), with the highest score being more dominant in the experimental class that uses LKPD media compared to the control class that uses the lecture method. The results of this study support the effectiveness of the use of LKPD as a learning medium. LKPD allows students to interact directly with the material, work on tasks that require critical thinking, and develop a deeper understanding through hands-on experience. In addition, LKPD also encourages active student participation, contextual problem solving, and collaboration between students, which is in accordance with modern learning theories. So this study emphasizes the importance of using interactive learning media and actively involving students in the learning process to improve student understanding and learning outcomes.

In this ponder, the ordinariness test was gotten utilizing the Kolmogorov-Smirnov equation. The typicality test is utilized to discover out whether the information is regularly dispersed or not. In this typicality test, the analyst employments SPSS 25.

Table 6. Results of the Normality Test Using SPSS 25

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CONTROL	,128	31	,200*	,956	31	,231
EXPERIMENT	,129	31	,200*	,964	31	,367

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the comes about in table 6 over, the typicality of learning results within the frame of a post-test was carried out utilizing the Kolmogorov-Smirnov test upheld by the Liliefors test. From the comes about of the calculation utilizing SPSS 25, the centrality esteem (Sig.) for the control lesson was 0.200, and the esteem (Sig.) for the exploratory lesson was too 0.200. Hence, it can be concluded that for the post-test of the exploratory course: 0.200 > 0.05 (H0 acknowledged, ordinarily disseminated information), and for the post-test of the control course: 0.200 > 0.05 (H0 acknowledged, ordinarily disseminated information).

In this ponder, the homogeneity test was carried out utilizing the Levene's Test strategy by comparing the noteworthiness values. Homogeneity testing for post-test using SPSS 25 within the experimental class and control course can be seen within the taking after table.

Table 7. Homogeneity Test Results Post Test Results

		Levene Statistic	df1	df2	Sig.
IPAS RESULTS	Based on Mean	1,907	1	60	,172
	Based on Median	1,899	1	60	,173
	Based on Median and with adjusted df	1,899	1	55,93	,174
	Based on trimmed mean	1,926	1	60	,170

Based on Table 7, the test using SPSS 25. It can be seen from the statistics Based on Mean that the value (Sig.) of 0.172 far exceeds 0.05 which means that the research data of each sample is the same or declared homogeneous.

The results of this study are relevant to the research of Elfina and Sylvia (2020) focusing on the development of LKPD based on Problem Based Learning (PBL) for Sociology subjects at the high school level. The results of this study showed a significant improvement in students' critical thinking skills, as evidenced by the real difference between pretest and posttest scores. These findings indicate that PBL-based LKPD is effective in stimulating and developing students' critical thinking skills in the context of Sociology learning.

Meanwhile, the research of Nadifatinisa and Sari (2021) explores the use of LKPD based on Higher Order Thinking Skills (HOTS) in science learning at the elementary school level. This study resulted in high-quality LKPD that proved to be suitable for learning ecosystem material

in grade V. The use of HOTS-based LKPD, which is integrated with the Liveworksheet application, has proven to be effective in encouraging students to think at a higher level, including critical and creative thinking skills. This approach allows students to critically analyze problems and find creative solutions, ultimately resulting in a deeper understanding of the learning material.

These two studies confirm that LKPD that is well designed and based on modern learning approaches such as PBL and HOTS can be a very effective tool in improving the quality of learning. This kind of LKPD not only helps students in understanding the subject matter, but also encourages the development of higher-order thinking skills that are very important in contemporary education. The use of LKPD based on innovative learning approaches such as PBL and HOTS has proven to be very effective in improving students' critical thinking skills, creativity, and problem-solving skills.

The results of this study show the significant impact of the use of Student Worksheets (LKPD) on social science learning in grade IV of SDIT Setya Dharma Cileungsi Bogor. LKPD has proven to be an effective learning tool, supporting both independent and collaborative learning. This allows students to develop skills both individually and in groups. This study emphasizes the importance of the development and implementation of LKPD designed with a modern learning approach in the education system. The implementation of this kind of LKPD needs to be continuously encouraged and improved, because it contributes to improving the overall quality of learning. Furthermore, the innovative use of LKPD helps prepare students for the increasingly complex challenges of the future. By stimulating the development of higher-order thinking skills, LKPD equips students with the abilities necessary to succeed in an ever-changing era. Therefore, the implementation of a well-designed LKPD is an important step in modernizing education and preparing the next generation who are able to think critically, creatively, and adaptively.

Conclusion

Based on research conducted at SDIT Setya Dharma Cileungsi Bogor, it can be concluded that the use of LKPD (Student Worksheet) media has a significant and positive influence on the learning outcomes of grade IV students in Natural and Social Sciences (IPAS). This quantitative study compares the experimental class that uses LKPD with the control class that uses the conventional lecture method. The results of the analysis showed that the average learning outcome of the experimental class (76.12) was significantly higher than that of the control class (62.94). The hypothesis test using the t-test confirmed a significant difference between the two groups, with the t-count value (5.618) being greater than the t-table (2.000) and the significance value (0.000) being smaller than 0.05. These findings show that the use of LKPD media is effective in improving student learning outcomes in science subjects, so that it can be recommended as an alternative learning method that is better than the conventional lecture method. The following are some suggestions conveyed by the researcher, namely: (1) For students, reuse existing media more. (2) For teachers, it is better to redevelop learning media that attract students' attention in learning. (3) For future researchers, they can redevelop this LKPD learning media by using technology to make it more interesting.

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