

Implementation of the Picture and Picture Learning Model in Science Learning for Grade V Students

Triya Agustina¹, Hamdan², Asep Sukenda Egok³

¹ Universitas PGRI Silampari, Indonesia; tryaagustina2001@gmail.com

² Universitas PGRI Silampari, Indonesia; hamdan@unpari.ac.id

³ Universitas PGRI Silampari, Indonesia; asep.egok91@gmail.com

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ABSTRACT

Learning activities are the process of interaction between students, educators, and learning resources in the learning environment. This study aims to determine the completeness of the learning outcomes of Natural and Social Sciences (IPAS) of fifth-grade students of SD Negeri 1 Sumber Harta after being given the Picture and Picture learning model. The background of this study is the low learning outcomes of students in the subject of IPAS caused by the use of monotonous learning methods and less involvement of student activity. This study uses a quantitative approach with a quasi-experimental method and a one-group pre-test and post-test design. The subjects of the study were all 18 fifth-grade students. The data collection technique used a written test in the form of essay questions. The results showed that the average pre-test score of 37.35 increased to 78.38 in the post-test, with the learning completeness level increasing from 11.11% to 88.89%. Statistical tests using the z-test show that the calculated z value is 4.97, which is greater than the z (table) of 1.64 at a significance level of 0.05, which means the alternative hypothesis is accepted. Thus, it can be concluded that the application of the picture and picture learning model can significantly improve students' science learning outcomes.

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Corresponding Author:

Triya Agustina

Universitas PGRI Silampari, Indonesia; tryaagustina2001@gmail.com

1. INTRODUCTION

Learning at the elementary school level is the knowledge imparted by educators to students. This learning activity is a process of interaction between students, educators, and learning resources in the learning environment. This learning process can help students learn effectively. Fauzan (2020:9) defines learning objectives as the mastery of operational competencies targeted or achieved by students in the

Learning Implementation Plan. This means that a learning objective is a key component that must be achieved in a learning process. For planning to be well-structured and determined, the objective needs to be formulated in the form of clear and measurable targets.

Conceptually, learning is not about mastering teaching materials, but rather the process of changing student behavior in accordance with the goals to be achieved. At the elementary school level, one significant change in the Independent Curriculum is the merging of Natural Sciences (IPA) and Social Sciences (IPS) into Natural and Social Sciences (IPAS). This step aims to help students gain a more holistic understanding of their surroundings (Ministry of Education and Culture, 2022). The implementation of IPAS learning, which combines science and social studies, shares similarities with other learning activities but also includes unique activities that support students' inquiry skills at the MI/SD level (Anggraena et al., 2022). Therefore, to develop students who are responsive and possess creative and critical thinking skills, Social Studies learning is necessary.

Social Studies learning is a combination of the Humanities and social sciences, integrated in a specific way. Social Studies education aims to develop students who are responsive and able to manage their surroundings effectively. (Isnaeni & Ningsih, 2021:666) state that Social Studies learning is closely related to various antisocial phenomena experienced by students recently. Sudrajat (2019) states that Social Studies is a subject with broad and quite complex learning content at the junior high school level because the goal of Social Studies learning is not merely to achieve understanding but also to instill attitudes in students, thus requiring the active role of teachers to achieve these goals through predetermined learning aspects. This means that Social Studies learning can help students improve holistic understanding and support inquiry skills to support the desired learning objectives.

Based on the results of interviews conducted at SD Negeri 1 Sumber Harta with the fifth grade teacher, Mrs. Suratmi, S.Pd. It is known that the fifth grade students of SD Negeri 1 Sumber Harta have used the independent curriculum. The problems that occurred during the learning process were learning that was not yet varied, where teachers explained the material more monotonously without actively involving students in learning so that students felt bored, and lack of student interest and student understanding in science lessons, and some students considered science lessons boring. The average student score was 63.94, which was still below the completion standard. The completion rate reached 44.44%, meaning that only 44% of students or 8 students achieved the minimum completion score. As many as 55.56% of students had not completed it, which showed that more than half of the students or 10 people still had difficulty in understanding the material being taught.

Based on the results of initial observations that have been carried out, there are problems that occur, namely in the process of learning science still using conventional methods so that learning like this makes students quickly bored and sleepy, this results in students being unable to concentrate to understand the learning material well, usually students feel bored when studying will affect other friends to not concentrate too, so that students do not understand the material that the teacher has conveyed. If this process is done repeatedly, it will cause low learning outcomes.

In order to create a conducive learning atmosphere, a teacher must use models, strategies, and methods in learning (Romansyah et al., 2022). One learning model that can be used is the picture and picture learning model. This model is an active learning model in the form of learning activities that use image media in learning activities by systematically sorting and pairing images (Kaharuddin & Hajeniati, 2020). According to Hamdan & Syaprizal (2020: 31) active learning is a process where students are actively involved in building an understanding of facts, ideas, and skills through completing tasks and activities directed by instructions. The picture and picture learning model has the advantage of making it easier for students to understand what the teacher wants to teach and can make students

interested in following the learning process delivered through audiovisuals and in the form of images (Sagala, 2022: 4).

This research is motivated by previous research (Adnillah Nadhifah, 2024) with the results of the study showing that after applying the picture and picture model it can improve the social studies learning outcomes of fifth grade students of SD Negeri Karya Teladan. Based on the description above, the author is interested in conducting research with the title "Application of the Picture and Picture Learning Model in Social Studies Learning of Fifth Grade Students of SD Negeri 1 Sumber Harta" the researcher will see that there is completeness in students' social studies learning outcomes through the application of the picture and picture model.

2. METHODS

This research method uses a quantitative approach. The research was conducted from May 3 to May 28, 2025 in the even semester of the 2024/2025 academic year using one sample class to collect research data, namely class V with 18 students. In this study, the authors used the picture and picture learning model. Ahmad et al. (2011:58) explain in their book that the picture and picture learning model utilizes images by arranging irregular images into a systematic arrangement. Meanwhile, Mansur et al. (2021) state that picture and picture learning can improve student learning outcomes.

The subjects in this paper included 18 fifth-grade students of SD Negeri 1 Sumber Harta, consisting of 8 girls and 10 boys. The effectiveness trial used a written test instrument consisting of 10 essay questions. The data analysis technique used was descriptive quantitative. Data were collected through tests and documentation.

3. FINDINGS AND DISCUSSION

Before conducting the research, a trial of the essay test instrument consisting of 10 questions was conducted to determine the quality of the questions that would be used during the research. The instrument trial was conducted on Saturday, May 3, 2025 in class VI of SD Negeri 1 Sumber Harta with a total of 15 students. Next, the researcher conducted a pre-test in the sample class to determine students' initial abilities regarding the material "oh, the environment is damaged" by applying the picture and picture learning model in the sample class which was carried out on Tuesday, May 14, 2025, which was attended by 18 students. After that, a post-test activity was carried out on Wednesday, May 28, 2025, which was attended by 18 students, in the sample class to determine students' final abilities regarding the material "oh, the environment is damaged" after being given treatment with the picture and picture learning model. Based on the results of the calculations in the pre-test, a recapitulation of the pre-test results can be seen in the table.

Table 1. Pre-test Data Recapitulation

Mark	Information	Pre-test	
		Frequency	Presentation
≥ 65	Completed	2	11.11%
< 65	Not Completed	16	88.89%
Amount		18 people	
Average value		37.35	
Standard Deviation		20.40	

Based on table 1, it can be seen that students who get a score more than or equal to the KKTP set by the school, in the pre-test, students who reach the KKTP are 2 students with a percentage of 13.64% and those who get a score less than the KKTP are 16 students with a percentage of 88.89%. The overall

average score is 37.35 with the results of the pre-test analysis obtained a standard deviation value of 20.40. Thus, descriptively it can be concluded that the initial abilities of fifth grade students of SD Negeri 1 Sumber Harta before implementing science learning by applying the picture and picture learning model are categorized as incomplete.

The research was conducted at the final post-test meeting on Wednesday, May 28, 2025, with the aim of determining students' final abilities after being taught using the picture and picture learning model. The questions given were in the form of essays totaling 8 questions. Based on the post-test, the results of the final test data calculation and the recapitulation of students' final test results can be seen in the table below.

Table 2. Post-Test Data Recapitulation

Mark	Information	Post-test	
		Frequency	Presentation
≥ 65	Completed	16	88.89%
< 65	Not Completed	2	11.11%
Amount		18 people	
Average value		78.38	
Standard Deviation		11.41	

In Table 2 above, it can be seen that 16 students achieved the KKTP (National Qualification) score, representing 88.89%. This indicates that more students completed the test. The average score obtained by students was 78.38, based on the calculation results. From the analysis results, The post-test obtained a standard deviation value of 11.41. Thus, descriptively, it can be concluded that the final ability of fifth-grade students of SD Negeri 1 Sumber Harta after implementing science learning by applying the picture and picture learning model is categorized as complete. After participating in science learning by applying the picture and picture learning model. When compared, the results of the pre-test and post-test, the average value obtained by students has increased. In the pre-test there were only 2 students with a percentage of 11.11% who completed and in the post-test there were 16 students with a percentage of 88.89% who completed. Thus, there is an increase between the results of the pre-test and post-test.

Table 3. Normality Test Recapitulation

Test	χ^2_{hitung}	Dk	χ^2_{tabel}	Conclusion
Pre-test	5.7645	4	9,488	Normal
Post-test	4,2493	4	9,488	Normal

Based on table 3, the normality test conditions using the pre-test obtained were $5.7645 < 9.488$ with the post-test being $4.2493 < 9.488$, so the statistical distribution of 18 fifth grade students of SD Negeri 1 Sumber Harta in science learning was stated to be normally distributed. $\chi^2_{hitung} < \chi^2_{tabel}$

To draw conclusions from the post-test data, statistical hypothesis testing was conducted. The statistical hypotheses tested were as follows:

H_0 = The average learning outcomes of science subjects for fifth grade students of SD Negeri 1 Sumber Harta in the 2024/2025 academic year were significantly incomplete ($\mu_0 < 65$)

H_a = The average learning outcomes of students in science subjects in grade V of SD Negeri 1 Sumber Harta in the 2024/2025 academic year were significantly completed ($\mu_0 \geq 65$)

Once the data is known to be normally distributed, we can proceed with hypothesis testing. A summary of the hypothesis testing results from the post-test data can be seen in table 4.

Table 4. Post-test Hypothesis Testing

Z_{hitung}	Dk	Z_{tabel}	Conclusion
4.97	17	1,645	H_o rejected and accepted H_a

Based on the hypothesis testing analysis, it was obtained that $t = 16.47$. Furthermore, compared with the value in the z distribution list with degrees of freedom $dk = n - 1 = 18 - 1 = 17$ $\alpha = 0.05$, it was obtained $= 1.645$. Thus $(4.97) > (1.645)$, this means it is rejected and accepted. In other words, the hypothesis proposed in this study can be accepted as true, so it can be concluded that the learning outcomes of grade V students of SD Negeri 1 Sumber Harta in the 2024/2025 academic year after implementing learning with the picture and picture model were significantly completed. $Z_{hitung} Z_{hitung} Z_{tabel} Z_{tabel} Z_{hitung} Z_{tabel} H_o H_a$

Based on the formulation of the problem presented in this study, namely "Are the results of learning science in grade V of SD Negeri 1 Sumber Harta after the application of the picture and picture learning model significantly completed? Based on the analysis of pre-test data, it can be seen that there are 2 students who get a score above the KKTP of 65 (complete), this analysis can be observed through the recapitulation of pre-test results based on calculations in (attachment D) and it can be concluded that the results of learning science in grade VI of SD Negeri 1 Sumber Harta before the application of the picture and picture model are significantly incomplete.

The instrument test was conducted on Saturday, May 3, 2025, at 08:00-09:30 WIB in class VI of SD Negeri 1 Sumber Harta with 15 students. Before the research was conducted, a trial of the essay test instrument consisting of 10 questions was conducted to determine the quality of the questions that would be used during the research. The results of the trial showed that out of 10 questions, 8 were declared valid and met the criteria for use in the research and 2 questions were declared invalid.

The research was carried out in 4 meetings, with details of one pre-test to determine students' initial abilities before the application of the picture and picture learning model and two times the process of applying the picture and picture learning model, then the final meeting was the implementation of the post-test with the aim of determining students' learning outcomes after the application of the picture and picture learning model.

The pre-test was conducted on Wednesday, May 14, 2025, at 08:00-09:30 WIB in class V of SD Negeri 1 Sumber Harta. The pre-test was conducted before the material explanation and the implementation of the picture and picture learning model by working on 8 essay questions with 18 students participating in the pre-test activity. During the implementation, many students had difficulty in working on the questions given. This can be seen during the pre-test implementation process and the average results of the pre-test scores.

Based on the research results which show that the pre-test results show that the students' scores are still below the KKTP set by the school, which is 65. The results of the pre-test data calculation obtained an average score of 37.35, while the standard deviation was 20.40 with the lowest score of 5.56, and the highest score of 72.22. The percentage of students who obtained a score of ≥ 65 with a complete category of 11.11% or 2 people and students who obtained a score < 65 with an incomplete category were 88.89% or 16 people. After being given a pre-test, then carrying out learning activities with an explanation and application of the picture and picture learning model in this activity was carried out in 2 meetings, with the following details:

The first meeting was held on Monday, May 19, 2025, at 08:00-09:30 with a time allocation of 2 x 35 minutes. Learning activities were guided by the previously created learning implementation plan. In the introductory activity, the teacher first greeted and invited all students to pray according to their respective religions and beliefs, then the teacher checked the students' readiness by taking attendance. In the main activity, to begin the learning process, the teacher conveyed the learning objectives to be achieved in the ongoing learning process.

After that, the teacher explained that today's learning process uses the picture and picture learning model. Then the teacher explained what the picture and picture learning model is. By showing a picture, the teacher gave directions and explained the material oh, the environment is getting damaged. Next, the teacher divided students into several groups consisting of 4-5 members and provided a worksheet by explaining the steps of the work in the form of pairing or ordering pictures logically, the teacher's task at this stage was to guide students after that each group took turns explaining the results of the discussion, then the teacher conducted a question and answer session to see students' understanding of the material entitled "oh, the environment is getting damaged".

In the final activity, the teacher provides reflection and evaluation of the ongoing learning process that has been followed and the teacher invites students to make a summary of the material that has been learned, then the teacher invites students to pray according to their respective religions and beliefs. When implementing the picture and picture learning model, there are still students who do not understand how the steps of the picture and picture learning model are and there are still those who are busy with other activities when the teacher explains the material.

The second meeting was held on Monday, May 27, 2025, at 08:00-09:30 WIB with a time allocation of 2x35 minutes. Learning activities were guided by the previously created learning implementation plan. In the introductory activity, the teacher first greeted and invited all students to pray according to their respective religions and beliefs, then the teacher checked the students' readiness by taking attendance. In the main activity, to start the learning process, students were reminded of the material entitled "oh, the environment is damaged" and conveyed the learning objectives to be achieved in the learning process that would take place.

After that, the teacher reminded again that the learning process uses the picture and picture model. Then the teacher explained again what the picture and picture learning model is. By showing a picture, the teacher gave directions and explained the material entitled "oh, the environment is getting damaged". Next, the teacher divided students into several groups consisting of 4-5 members and provided a worksheet by explaining the steps of the work in the form of pairing or ordering pictures logically, the teacher's task at this stage was to guide students after that each group took turns explaining the results of the discussion, then the teacher conducted a question and answer session to see students' understanding of the material entitled "oh, the environment is getting damaged".

After that, the teacher provides reflection and evaluation of the ongoing learning process that has been followed and the teacher invites students to make a summary of the material that has been learned, then the teacher invites students to pray according to their respective religions and beliefs. After carrying out the first and second meetings, the researcher then carried out a post-test activity which was carried out on Wednesday, May 28, 2025 at 08:00-09:30 WIB. The implementation of the post-test aims to determine the final results of students after applying the picture and picture learning model by working on essay questions totaling 8 items. Students who participated in the implementation were 18 people. During the implementation there was an increase in the post-test and the final results of the average post-test score. The results of the post-test data calculation obtained an average score of 78.38 while the standard deviation was 11.41 with the lowest score of 61.11, and the highest score of 100. The

percentage of students who obtained a score ≥ 65 with a complete category of 88.89% or 16 people and students who obtained a score < 65 with an incomplete category were 11.11% or 2 people.

The results of the study showed that after comparing the pre-test and post-test results, it was found that the implementation of the picture and picture learning model significantly improved the science learning process. Based on the analysis, the average pre-test score was 37.35, which was due to the researcher not implementing the picture and picture learning model, while the average post-test score was 78.38. These data indicate that the implementation of the picture and picture learning model can improve students' science learning outcomes. This is evidenced by the post-test results, which show that 16 students received a score in the complete category ≥ 65 (88.89%) and students who obtained a score < 65 with an incomplete category were 2 students (11.11%).

Based on the description above, a data normality test was performed to determine whether the pre-test and post-test data were normally distributed. The results of the data normality test were calculated using a goodness-of-fit test. χ^2 Chi-square test can conclude that the post-test shows that the data is normally distributed at the confidence level $\alpha = 0.05$, because after being analyzed using the z test, the value (4.97) is known. Then it is compared with the value with $dk = n - 1 (18 - 1) = 17$. So, the result of the analysis is the value $>$ or $4.97 > 1.64$. $\chi^2_{hitung} < \chi^2_{tabel}$ $Z_{hitung} < Z_{tabel}$

So, it can be concluded that the picture and picture learning model is significantly complete or 65 (65). In line with the results of research that has been carried out by Adnillah Nadhifah (2024) with the title "Application of the Picture and Picture Learning Model on the Learning Outcomes of Social Studies Class V of Karya Teladan State Elementary School" which proves that the picture and picture model can improve student learning outcomes.

Advantages of the model The picture and picture learning model found during the study that influences student learning outcomes is a learning model that can present real objects in the form of images so that it can create a fun learning process and students are invited to master the material by sequencing images logically. The picture and picture model also involves active learning, therefore the picture and picture model influences student learning outcomes. Mansur, et al (2021) stated that pictures and pictures can improve student learning outcomes. Whereas, Ahmad, et al (2011:58) explain in his book that the picture and picture learning model is a learning model that uses pictures by arranging irregular pictures until they are arranged systematically.

4. CONCLUSION

Based on the research and explanation above, as well as previous research, the implementation of the picture and picture model in grade V of SD Negeri 1 Sumber Harta is declared complete. This is evident from the improvement in student learning outcomes after the implementation of the picture and picture learning model. Students become more active, motivated, and understand easily because of the assistance of existing picture media. In addition, this model is also able to increase student participation in group discussions and strengthen their memory of the material taught. Therefore, it can be concluded that the learning outcomes of grade V students of SD Negeri 1 Sumber Harta in the 2024/2025 academic year after the implementation of learning with the picture and picture model are significantly complete.

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