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The Use of Picture Media to Improve Science Learning Outcomes for Elementary School Students

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Abstract

This study aims to improve learning outcomes through learning media, namely pictures in the subject of Natural Sciences (IPA) for fourth grade elementary school students. This research is a research with Classroom Action Research (CAR) method. This research consisted of several stages, namely planning, implementing, observing, and reflecting. The source of the data in this study were fourth grade elementary school students. Data collection techniques in this study are using observation techniques, interviews, tests, and documentation. Data analysis tests in this study were data reduction and data description. The validity of the data in this study is the observer triangulation method. The criterion for research success in this study is the understanding of 80%. In cycle I the incomplete category was 64.5% and above the KKM was 35.4% with the complete category. In cycle II under the KKM or with the incomplete category of 42% and above the KKM which is 58% with the complete category. Based on the results of the research that has been done, it can be concluded that using media images can improve the learning outcomes of fourth grade students in science.

Keywords: image media, learning outcomes, natural sciences.

1 INTRODUCTION

In the current era of globalization, it is one of the obligations of educational units such as schools to be able to improve the quality and quality of education through the use of technology. Educational activities are activities that are very important for human life, because humans get various knowledge, skills, and attitudes through education(Djamaluddin, 2014). The quality of education is influenced by many factors, one of which is the role of those directly involved in the educational process. Teachers play an important role in education, especially in preparing and implementing learning activities in schools. It is the teacher's job to pay attention to the strategies, models, or learning methods used during learning. These things determine the success or failure of the learning activities carried out.

Learning is an obligation that must be done for every individual. Learning is an active process within the individual, interacting with the environment through experiences that produce relatively permanent changes in behavior

Nature is natural, so to interpret it, science is a science that studies everything related to phenomena that exist in nature, both living things and dead people.(Kumala, 2016)

Learning is a process to achieve learning outcomes. Learning outcomes are competencies that children acquire after participating in learning activities(Kasim, 2019). Learning outcomes are the results of measuring the ability of students after participating in the learning process within a certain period can be measured using relevant instruments. Many factors influence student achievement, some are internal (internal) and some are external (external).

The observation results show that in each learning process in class IV SDN Pekayon 18 Pagi that occurs, it turns out that some students do not understand what material is being taught by the teacher, even though every time the teacher finishes explaining the material the teacher always asks students about the material presented earlier, but None of the students responded to the teacher's questions. However, when given practice questions students had difficulty and could not work on them. In the style material students experience difficulties, as evidenced by the learning outcomes of class IV students at SDN Pekayon 18 Pagi in science learning there are still those who are below the KKM. The score that must be achieved by students in this subject is 75. Out of 31 students, only 10 students or around 33% of students achieve the KKM, and 21 students or around 67% score below the KKM. This shows the low science learning outcomes in the learning process that has occurred so far is still not able to develop students' thinking skills. Because the implementation of learning is only teacher-centered, where the material is provided only from books and does not use media to convey material and students are directed only to take notes. books and do not use the media to convey the material(NUP Utami & Rahman, 2020). According to(Rahmad & Budiyanti, 2022)learning outcomes that show a child's learning achievement is influenced by several factors. Instead, the role of the family is to help provide accommodation and a conducive learning environment. Then facilitate the achievement of the expected learning outcomes of individuals based on the results of their interactions with the two factors that influence them. These factors are factors that arise from within (internal) and those that arise from outside (external). Internal factors include physical factors, psychological factors, physical and psychological maturity factors that lead to behavior. Psychological factors themselves include intelligence, talent, attitudes, habits, interests, needs and motivation. These factors directly and indirectly affect the success of learning.

The learning process that has occurred so far has not been able to develop students' thinking skills. Because in the implementation of learning in class students are directed only to take notes. Seeing the current conditions, the science learning process in elementary schools is carried out conventionally. For this reason, with respect to teaching science, it is necessary to support the progress of technological development. Then the success of teaching science is determined by the ability of students and the ability of teachers to carry out the teaching and learning process according to the learning objectives contained in the curriculum.

According to(Suan, 2021)Science learning is expected to be a vehicle for students to learn about themselves and the natural environment, and to study the prospects for its application in everyday life. Science is a collection of systematic theories, its application is to natural phenomena, born and developed by humans who require a scientific attitude, such as observation and experimentation, and a scientific attitude that is curious, open, honest, etc.(Anita Seftriana, 2020). So Natural Sciences (IPA) is one of the subjects that contains broad natural concepts and works closely with one's concrete life.

Teachers can take advantage of the use of media images as media for learning science in the classroom. The importance of using media for learning with goals, materials and methods. Assessment is considered to play a role in the success of learning. The media used there have different classifications of learning activities and are structured as follows: print media, graphic media, exhibition media, sound carriers, films, pictures and multimedia(Astuti, 2021). Image media is also used as a learning media solution chosen so that students are able to stimulate students to be more active in studying Natural Sciences. So that children don't just stay in place just to listen to explanations about learning Natural Sciences(Suparman et al., 2020).

A number of studies show how visual media contributes to the development of student learning outcomes. Whereas,(Ambarwati, 2017)has examined the significant impact on the development of student learning outcomes. As well as(Panjaitan, 2017)find self-confident and skilled students to explain styles and their benefits. And(S. Utami, 2018)found that students who studied science using media images showed that media images also increased students' strategies and motivation.

The research listed above has proven how media images impact students' science learning outcomes. However, it does not comprehensively pay attention to student participation during the use of media images and students' perceptions of the integration of media images into their classes. On this basis, this study aims not only to improve students' science learning outcomes through the use of media images, but also to see an increase in their participation during the learning session, and also to find out how students respond to the use of media images in class.

2 RESEARCH METHODS

This study aims to see how media images can improve student learning outcomes and student participation, as well as see student responses to the use of media images in class. This research is a classroom action research method carried out in 3 cycles, each cycle has stages of planning, implementation, observation, and reflection stages.

The source of the data in this study were fourth grade students at SDN Pekayon 18 Pagi. Data collection techniques in this study are using observation techniques, interviews, tests, and documentation. Data analysis tests in this study were data reduction and data description. The description of the data is also divided into two, namely qualitative and quantitative data. Quantitative data on the results of the elaboration research are explained as follows.

Written Test Data

The data analysis technique that the researcher uses in obtaining data on student learning outcomes is a written test, analyzed using the average formative test scores which are then made a percentage, which is calculated by the following calculation:

$$\frac{jumlah\ siswa\ yang\ memiliki\ ketuntasan\ belajar}{jumlah\ seluruh\ siswa} \times 100\%$$

Observational data are presented in table form and then analyzed using percentage values. The percentage formula used is:

$$P = \frac{F}{N} \times 100\%$$

The data validation technique in this study was carried out by means of a triangulation process, namely as checking data from various sources in various ways and at different times, so that triangulation can be grouped into 3 types namely source triangulation, data collection triangulation and time triangulation. The minimum completeness criterion value in this study is the minimum completeness criterion value that has been set by the school, which is 70. The results of understanding 80% of class IV students at SDN Pekayon 18 Pagi semester II of 2021/2022 are more than the KKM (70).

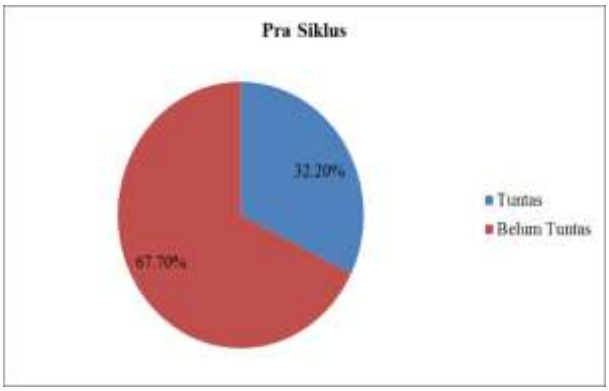
3 RESULT AND DISCUSSION

This research was conducted from March to April 2022. Before taking action, to find out the initial conditions the researchers made observations during the science learning process. The pre-cycle stage was carried out before the researcher carried out Cycle I. The results from the observation were there were problems learning science. Science learning outcomes are still below the Minimum Completeness Criteria (KKM), which is 70. The results of daily tests (Pre-Cycle) can be seen in the following table:

Table 1.Pre Cycle Learning Outcomes

	Pre Cycle
Average	64,91
complete	32.2%
Not Completed	67.7%

When described in the diagram as follows.



Picture1.Figure Completeness Diagram of Pre-Cycle Learning Outcomes

Based on the Pre-Cycle learning outcomes as shown in Table 1, in the first cycle of action in the observation in the form of a learning achievement test, it was obtained that only 10 people completed or 32.2% and 21 people did not complete or 67.7%. While the KKM set for science subjects is 70, the presentation results have not reached the classical completeness criteria, namely ≤ 80% of the total number of students who have completed their studies.

Cycle I

The researcher considered the results of Cycle I. The results of the reflection will be used to improve teacher performance in Cycle II and beyond.

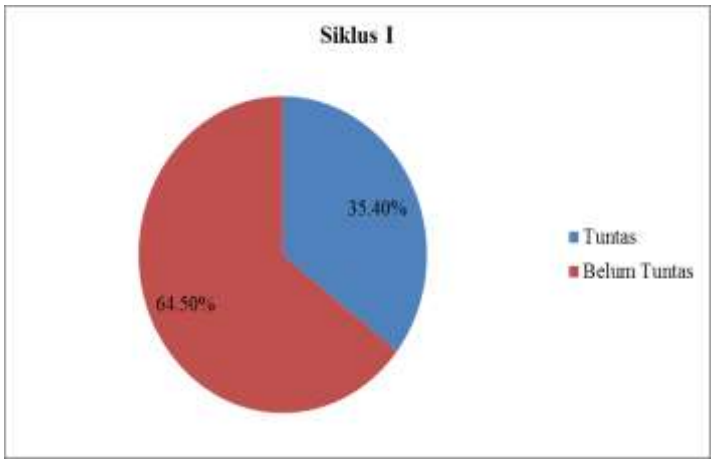
Based on the learning outcomes of the first cycle as shown in Table 1, in the first cycle of observation in the form of a learning achievement test, the average score of students was still below the KKM, which was 60, while the KKM set for science subjects was 70.

Overall, the percentage for the unfinished category is 64.5% and for the complete category is only 35.4%. While the average score is only 65.56 from the KKM which has been set at 70 for science subjects, this result is of course still not optimal from the KKM. The results of the daily test (Pre-Cycle) can be seen in the following table:

Table 2.Learning Outcomes of Cycle I

	Cycle I
Average	65,56
complete	35.4%
Not Completed	64.5%

When described in the diagram as follows.



Picture1.Picture of Cycle 1 Learning Mastery Results Diagram

From the results obtained on the list of student learning outcomes through the use of media images in cycle I, the average value is still below the KKM standard, namely 70. The percentage with less or incomplete value data is 20 students or 64.5%, while for the percentage with good grades or complete data as many as 11 students or only 35.4%.

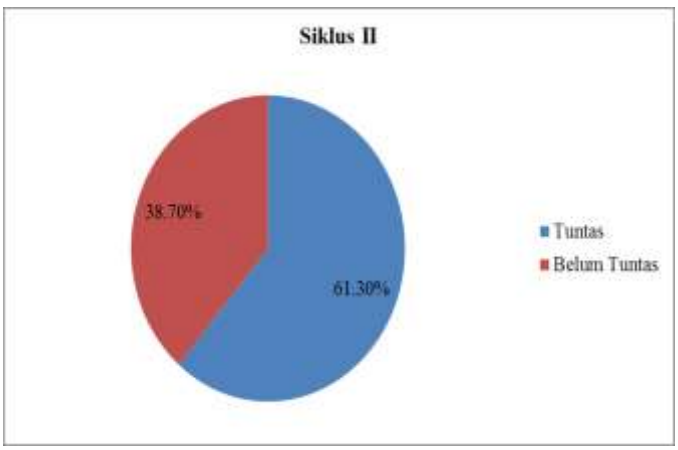
Cycle II

In the second cycle, the classical completeness scores of the second cycle students experienced an increase, i.e. overall students who scored above the KKM were 18 students or 58%. So that overall the students who scored above the KKM were 19 students or 61.3%, and to get scores below the KKM were 12 students or 38.7%. This result has increased by 22.5% with an average value of 72. Therefore, research will continue to strive for maximum achievement in cycle III. The results of the daily test (Cycle II) can be seen in the following table:

Table 3.Cycle II Learning Outcomes

	Cycle II
Average	72
complete	61.3%
Not Completed	38.7%

When described in the diagram as follows.



Picture3. Cycle II Learning Mastery Results Diagram

Based on Table 3, it can be seen that the average grade IV of SDN Pekayon 18 Pagi is 61.3 of the students who have completed (reaching the KKM) there are 19 students (61.3%), while there are 12 students who have not completed(38.7%). In this cycle the students' KKM has not exceeded the specified target which is equal to 61.3%, while the specified target is 80%, this has increased. This means that the research has not been successful and it is necessary to continue the next cycle.

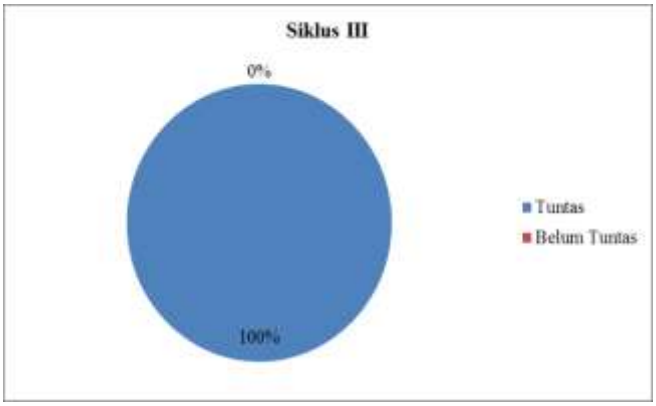
Cycle III

In cycle III, students' KKM results have exceeded the specified target, which is 100%, while the target set is 80%, this has increased. It means that this research has been successful and there is no need to continue the next cycle. Research in cycle III was carried out in class IV SDN Pekayon 18 Pagi with a total of 31 students, the material in cycle III was style. The following is the value of learning outcomes in cycle III:

Table 4.Cycle III Learning Outcomes

	Cycle III
Average	94
complete	100%
Not Completed	0%

When described in the diagram as follows



Picture4.Diagram of Learning Completeness Results Cycle III

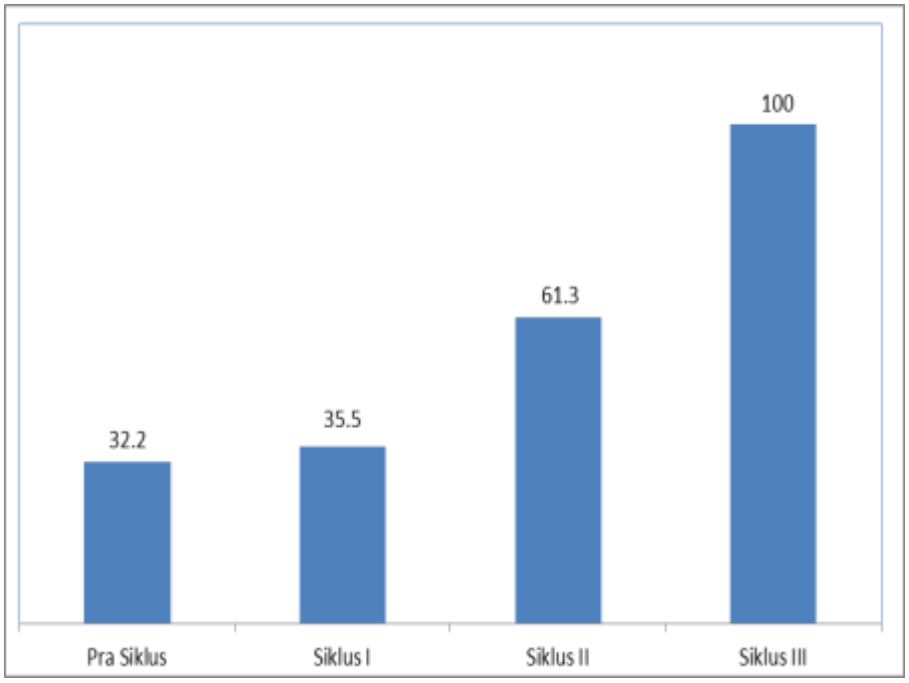
Based on Table 4, it can be seen that the average grade IV of SDN Pekayon 18 Pagi is 94. Of the students who have completed the KKM, there are 31 students (100%) and none have yet completed (0%). In cycle III, students' KKM results have exceeded the specified target, which is 100%, while the target set is 80%, this has increased. It means that this research has been successful and there is no need to continue the next cycle.

Learning outcomes in the third cycle of 80-82 obtained by 3 students, 12 students obtained 89-91 values, and 16 students obtained 98-100 values. This is of course the very maximum results produced by researchers together with the homeroom teacher through actions in cycle III. All of this can be seen from the results of each cycle experiencing a better improvement, namely the average value of cycle I was 65, cycle II was 72, and cycle III reached 100.All of this can be seen from the results of observations and interviews that have been described in the table above regarding improving students' natural science learning outcomes through the media of images. The following indicators of learning outcomes include: 1. Ability to mention, 2. Ability to explain, 3. Ability to differentiate(Munasir, 2014).Implementation of learning in Cycle III classically students who get scores ≥ 70 (KKM score) reach 100% of the overall students. The percentage results have reached the classical completeness criteria, namely ≥ 80% of the total number

of students who have completed their studies. The research results can be described using table 5 and graphic image 5:

Table 5.Recapitulation of Student Learning Completeness

	Pre Cycle	Cycle I	Cycle II	Cycle III
Average	64,91	65,56	72	94
complete	32.2%	35.5%	61.3%	100%
Not Completed	67.7%	64.5%	38.7%	0



Picture5. Graph of Student Learning Completeness

Figure 5 shows student learning outcomes after applying the use of media images in learning there is an increase in learning completeness Pre-cycle 32.2%, Cycle I 35.5%, Cycle II 61.3%, and Cycle III 100% of students complete learning. The increase in students' complete learning from Pre Cycle to Cycle I was 3.3%, Cycle I to Cycle II was 25.8% and Cycle II to Cycle III was 38.7%. The discussion can be illustrated using Diagram 6:



Picture6.Diagram of Student Learning Completeness

Figure 6 shows student learning outcomes after applying the use of media images in learning, there was an increase in learning completeness. Pre-cycle 32.2%, Cycle I 35.5%, Cycle II 61.3%, and Cycle III 100% of students complete learning. The increase in students' complete learning from Pre Cycle to Cycle I was 3.3%, Cycle I to Cycle II was 25.8% and Cycle II to Cycle III was 38.7%.

The results of the study stated that the use of media images was used in this study because this media can increase student activity and achievement. Image media can increase achievement both in terms of teacher activities and student activities, so that it has an impact on increasing student learning outcomes. In other words, the action hypothesis is accepted.

4 CONCLUSION

The findings of this study have proven that the use of media images in class can help in improving science learning outcomes and student participation in learning as well as eliciting positive student responses to the use of media images in class. These findings indicate that media images can be an alternative medium for teachers to optimize the potential of students who are more controlled in the classroom. What's more, media images are classified as flexible and images are easy to obtain and more easily understood by students. Further research is needed to prove the statistical effectiveness of using picture media for science learning.

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